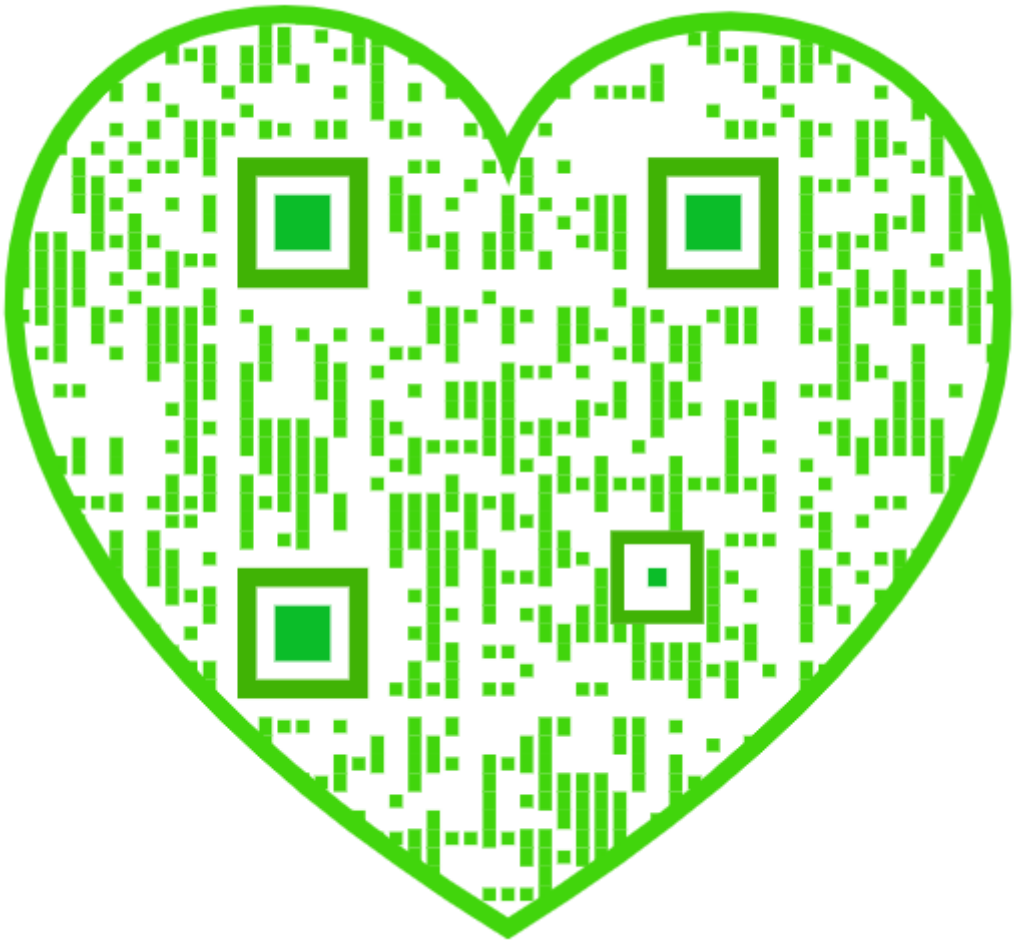
HOW TO BREAK, RIDE AND DRIVE A HORSE



HOW TO
BREAK, RIDE AND DRIVE
A HORSE.

CONTAINING

A Complete Treatise on the Horse,

DESCRIBING THE

MOST USEFUL HORSES

FOR BUSINESS,

AND

THE BEST HORSES FOR THE ROAD.

ALSO GIVING

INSTRUCTIONS IN BREAKING, RIDING AND DRIVING HORSES.

A Valuable and Instructive Book.

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HOW TO
Break, Ride and Drive a Horse

THE RIDING HORSE AND ITS ACCOUTERMENTS.

THE horse used for riding, commonly called "a hack," is of a somewhat different description from either the hunter or the race-horse. Neither is the ordinary hack precisely like that called "the covert-hack." Many thoroughbred race-horses turn out good hacks, and some hunters also are active enough to answer the same purpose; but, generally speaking, this is not the case, and neither the one nor the other would come under the description of the "perfect hack." The most obvious distinction in hacks is between park-hacks and road-hacks; the former requiring only a fine form with showy action, while the latter are selected for their serviceable qualities, and must be capable of doing a distance in good time, with ease to themselves and comfort to their riders.

THE PARK-HACK is generally what is called by the horse-dealers a "flat-catcher," that is to say, he is a showy horse, with an appearance which will catch the eye, but really worthless, from some deficiency of constitution or infirmity of legs. There are every year some scores of useless brutes turned out of the racing stables with legs which will not stand a preparation, in consequence of their tendency to inflame and become sore. Now, these horses are often unfit for the hunting-field from defective hocks, or from some peculiarity of temper which prevents their taking to jump. They are often "well topped"—that is, well formed about the head, neck, and body, and, to the inexperienced eye, are very taking. They also often have high action, and sometimes particularly so, for the higher it is, the more likely to occasion inflammation of the legs. These animals are put by, cooled down, and blistered, and are then brought out as showy hacks, for the use of gentlemen who merely require a short constitutional airing every *fine* day of an hour or an hour and a half, and, as fine days do not average above four a week, most horses even of the most infirm legs can accomplish that amount of work, *if ridden quietly over hard ground.* Many such animals are exhibited daily in Central

Park, where the ground exactly suits them; but there are others there also of the most perfect description, capable of standing as much work as any butcher's pony. Nevertheless, it must be admitted that the great majority of our modern good-looking hacks are incapable of doing as much work over hard ground as the coarser-bred and more common-looking brute in use among the butchers and general dealers who attend country fairs from long distances.

Eastern blood is a great advantage in most respects, and no doubt when the animal possessing it is sound, he will bear the shocks of the road with impunity; but there is no question in my mind that he fails in the matter of enduring daily concussion on the road, and that a Welsh pony or Norman horse will stand nearly twice the amount of road-work without showing its effects. This is the weak point in the breed, partly arising from original want of size in the bone and joints, but chiefly, I imagine, from the constant use of stallions for inferior stock, which have themselves suffered from inflammation of the legs and its consequences; hence, in process of time, a breed of horses is formed which is more than naturally delicate about the legs, because they have really been selected from that defect, though only from necessity, and not from choice.

My reason for thinking that the Arab blood is not necessarily inclined to produce inflammatory joints is, that in their native country they are peculiarly free from them, although used for long distances, and that in this country those which are bred from modern Arabs are sound in their limbs, though otherwise unfit for the purpose for which they were bred. Safeguard, who is descended from the Wellesley Grey Arabian, has got most of his stock with particularly wiry legs; and I have had one of them which would stand any amount of battering without mischief, besides knowing others of the same character in other hands.

Hence I am led to conclude that the cause is not inherent in the blood, but is accidentally introduced by the use of rejected stallions for farmer's purposes. These get good-looking colts, which fetch high prices, and therefore suit the breeder's purpose just as well as the sounder horse, who would, perhaps, cost twice as much for his services. The breeder seldom tries the legs much, and it is only when put to work that the weakness is discovered, which to the eye is not by any means perceptible. From a long experience in my own case, and in that of others, I am convinced that legs cannot be selected by the appearance or feel. I do not mean to say that out of forty horses the twenty with the best-looking legs will not beat the others, but that it is impossible for any judge, however good, to pronounce with anything like cer-

tainty whether a certain leg will stand or not, without knowing anything of the possessor of it. In so many instances have I seen a well-formed leg go to pieces directly, and a bad one stand, that I can only come to the conclusion that no certain opinion can be formed from a mere inspection. This is a great source of loss to the dealer, who buys his horses after a long rest, and with the legs looking fine and sound; for even the necessary "showing out" will make many give way, and lameness ensue of a character which will not warrant a "return," yet sufficient to prevent a profitable sale. A horse sore from work is cooled down, physicked, and put into a loose box; he is then blistered, and kept without more than quiet exercise till he is to be sold, and by that time his legs are as fine as the day he was foaled.

Now, I defy any one, however skillful, to detect the inherent weakness; but there it is, and on the first week's severe work the inflammation returns as bad as ever. The park-hack, not requiring legs to stand severe work, his place is well filled by any horse of good temper, safe, and showy action, and of elegant form. Good temper is necessary, because as these horses are not worked hard, they speedily become unmanageable if they are naturally of a vicious disposition. Work will quiet almost any horse; but in order to have a horse pleasant to ride at all times, whether fresh or stale, he must be of a very tractable temper indeed. Many horses which will come out of the stable, when fresh, in a state of fiery and hot impatience, rearing and kicking like mad animals, will, when in good work, be as quiet as donkeys; and hence it is not always wise to reject one showing these qualities, nor yet is it prudent for a bad horseman to mount one without previous riding, although he may in his usual state be quiet enough.

There are two bodily qualities which every hack should possess—first, a good shoulder; and, secondly, a free use of the hind-quarter. It is of no use for the fore-leg to be well raised and thrust forward, unless this action is well supported by the hind-leg. No hack is so unpleasant as the one which lifts his foot and puts it down again nearly in the same place. Here the defect is in the hind-quarter, which does not propel the body as the leg is lifted, and the consequence is the action I have noticed, in which the progress, though with a great deal of bustle, is not more than six miles an hour. At the same time, too long a stride, either in the walk, trot or gallop, is not pleasant; and the horse which has a moderately short, quick action will in most cases be preferred. All this, as in the case of the legs, cannot be surely prognosticated from the shape; and hence the dealer who has a good mover will always say to his customer, find-

ing fault with the looks of a horse in the stable, "See him out, sir, and you will like him;" and such is often the case. The worst-looking horse in the stable is not only the best, but the best-looking out, being quite a different animal in action. In fact, every trial should be obtained before purchase, for it is not until the rider has actually mounted that the good or bad qualities, in point of comfort, are fully developed.

Some people pretend to be able to pick a hack out by the eye alone, but though in large numbers they may succeed tolerably well, yet in many cases they will be wofully deceived. The feet should always be good, and with plenty of horn; flat soles do not bear the road, nor do contracted heels, and there is no horse which requires such perfectly formed feet as this. The hunter or race-horse may be used when he could not get along at all on the road, but the hack *must* be sound in this part, or he will be crippled on the first piece of hard ground. In height the park-hack usually ranges from 14 to 15 1-2 hands; rarely, however, being much above 15 hands.

The Road-Hack may or may not be good-looking, but he must be able to walk, trot, and gallop in a most unexceptionable manner. The walk should, as in the park-hack, be safe and pleasant, the fore-foot well lifted, and deposited on its heel, with a clean action of the hind-leg, by which it escapes "knuckling over" from being put down too soon, or "overreaching" from the opposite extreme. Five miles an hour is the outside walking pace of a good hack, and though some will do considerably more, it is seldom by anything but a kind of shuffle, which is not pleasant to the rider, nor elegant to the spectator. The trot should be of that character that it may be brought down to eight miles an hour, or extended to fourteen; and this is the perfection of the pace, for few horses can do both well, being either too close to the ground in the former for safety, or too set and lofty in their action for the latter.

No defect is worse than the unsafe action, which results from a weakness of the extensor muscles of the arm, and in which the action is pretty good as long as the horse is not tired, but after a few miles the leg is not lifted with power enough, and the toe is constantly striking against some inequality of the ground, from *which it is not recovered.* This marks the defect: for it must not be confounded with habitual stumbling, which is as likely to occur at starting as at any other time, and which is always easily detected by watching the mode of putting down the foot in the naturally unsafe trotter, where the toe touches the ground first, and the heel then follows, as is evidenced by the state of the tip

of the shoe. Here a trip may occur often, and yet no fall occur, because the extensors are strong, and effect a recovery after the mischief has been *nearly* done. But when the extensors are weak, the toe, which has been well raised at first, after a few miles touches the ground, and *not being rapidly recovered*, a fall ensues of the most severe character. For this reason it is necessary to ride a horse some distance before his action can be pronounced upon, and only then can it be said that he is fit for a timid or bad rider. It is, I am sure, the height of absurdity to recommend this or that shape as being necessary. Hacks go in all shapes, and though oblique shoulders may be desirable, yet many a good hack is without them. Action is the *sine qua non*, united to stoutness, temper, and soundness both of wind and limb, as well as of the eyes. A horse with a thick loaded shoulder often makes a good hack, while a very thin one is seldom fit for long journeys. One point about the shoulder is very desirable—namely, the proper development of the broad part of the blade, without which there is nothing to hold back the saddle, and the rider is far too much over his horse's neck.

The gallop in this kind of riding horse is not so important as the trot and walk, but it should be true—that is to say, it should be as high before as behind; for, in default of this proper balance between the fore and hind quarter, the amount of fatigue is greatly increased. But as, in the present state of our roads, the gallop ought not to be persisted in for many miles, so it is of less consequence than the trot, which is, or should be, the regular pace on hard ground. The canter is not much used by gentlemen, being more fit for ladies, as it rapidly wears out the leading leg when much weight is carried. A cantering hack, therefore, is not much sought after for any but ladies' service. The hard gallop is usually about fifteen or sixteen miles an hour, and the sides of the road should always be selected.

In the mode of Procuring there is little choice, few people who use hacks having the opportunity of breeding them; nor if they had the necessary land, etc., would they find it answer.

The hack is a mongrel animal, and can seldom be bred with certainty, because, as now used, he is an exceptional case, being nothing but an accidentally small hunter or racehorse. Hence, if a hack mare is bred from, with the intention of rearing a hack, the chances are that she produces an animal as high as her mother, who was probably a slapping huntress.

Our hacks are now all bred from the thoroughbred horse, crossed with some harness or hunting mare, generally the latter; and, as these are now of blood consisting almost en-

tirely of that of the thoroughbred horse, the hack is even more pure than his dam; but still a mongrel, and often with a cross of Welsh or Norman blood, which renders him hardy, but still more mongrel or impure.

Purchase, therefore, is the only mode open to the intended horseman, and there are plenty of dealers throughout the kingdom where these animals may be procured, independently of the numerous fairs held in our provincial towns. A respectable dealer's stable is the best mart, and far better than a fair, where no good trial can be had; and the horse being made up for a particular time can be more easily made to take in a customer. In the dealer's stable no notice is given, and he cannot be always prepared for deception. Besides, it is much more difficult to detect unsoundness of the eyes in the open air than at the stable-door, and many lame horses also are rendered for the time quite sound by constantly keeping them going up and down a fair. Spavins are particularly likely to be passed over in this way, as well as broken wind, which may be to a certain extent made up by artificial means.

But hacks at the hammer is a complete lottery, for they may be very unpleasant to ride, although with all the appearance of going smoothly and safely. Harness horses may be bought with far more certainty in this way, but those which I am now considering require such very perfect action, that they cannot be calculated on except by a trial in the saddle. Neither can the mouth be examined with reference to the bit, although the age can be ascertained with tolerable precision. A tender mouth is a great advantage, and its opposite as great a nuisance; yet this cannot be discovered in this mode of dealing, and therefore I should advise its adoption with great reluctance.

THE ACCOUTERMENTS AND AIDS

Required are a saddle, bridle, and a whip or stick; the latter should be either a straight whip like that used in racing, or a common short walking-stick, or a short cane with a handle, sold for the purpose.

Spurs are not commonly used in hacking unless the horse is sluggish, but some are never to be depended upon without this stimulus. They are sometimes so indolent as to stumble at every few yards without the spur, but on the slightest touch they are all alive, and their action changes in a moment. With such animals the spur should always be worn, though it need seldom be used.

MOUNTING AND DISMOUNTING.

THE DIRECTIONS for these, the preliminary feats of horsemanship, are generally given as if all horses were of moderate height, and all men six feet in their stockings.

Stand opposite the near fore-foot of the horse, place the left hand on the neck near to the withers, having the back of the hand to the horse's head, and the reins lying in front of the hand.

Take up the reins with the right hand, put the little finger of the left hand between them, and draw them through until you feel the mouth of the horse; turn the remainder of the reins along the inside of the left hand, let it fall over the fore-finger on the off side, and place the thumb upon the reins.

Twist a lock of the mane round the thumb or forefinger, and close the hand firmly upon the reins.

Take the stirrup in the right hand, and place the left toe in it as far as the ball; let the knee press against the flap of the saddle, to prevent the point of the toe from irritating the side of the horse; seize the cantle of the saddle with the right hand, and springing up from the right toe, throw the right leg clear over the horse, coming gently into the saddle by staying the weight of the body with the right hand resting on the right side of the pommel of the saddle; put the right toe in the stirrup.

Now this is in the main applicable to a man of five feet ten inches, or six feet, but to a shorter individual attempting to mount a horse of fifteen hands, three inches, it is an impossibility, simply because he cannot reach the cantle from the same position which enables him to hold the stirrup in the left hand. This is also wrong, in my opinion, in directing that the body should be raised into the saddle directly from the ground, with one movement. This will always bring the rider down into the saddle with a very awkward jerk; and the proper direction is to raise the body straight up till both feet are on a level with the stirrup-iron, and *then* with the left leg held against the flap of the saddle by the left hand on the pommel, the right leg is easily thrown over the cantle, and the body may be kept in the first position until the horse is quiet, if he is plunging or rearing. A short man can generally place his foot in the stirrup while held in his hand, but it should be known that all cannot do this, because I have seen young riders much vexed at finding that they could not possibly do what is directed.

Most of our writers on horsemanship are of the military school, and endeavor to cut every one's cloth by their own coats. They are able to do certain things easily, and so are their men, because they are mostly of the height already specified; but as sportsmen and civil equestrians are of all heights, I shall endeavor to accommodate my remarks to all heights and classes.

In all cases the rider should stand at the shoulder, though with a short man it is much easier to mount a tall horse from

the hind-quarter, but the danger of kicking is very great; and even in mounting with a "leg," in the jockey style, I have known the thigh very nearly broken by a kick.

If the hand *can* steady the stirrup it should do so, but if the person is too short, it can be placed in the stirrup without its aid; then taking the reins between the fingers, much as directed in the passage already quoted, and grasping a lock of the mane with the finger and thumb, the body is raised till the right foot is brought to a level with the left, when the right hand seizes the cantle, and with the left grasping the pommel, the body is steadied for a short time, which, in the ordinary mount, is almost imperceptible, but in a fidgety horse is sometimes of considerable length. The leg is now thrown gently over the saddle, and as it reaches the hand the latter is withdrawn, after which the body sinks into the saddle in an easy and graceful manner. The right foot is then placed in the stirrup, with or without the aid of the right hand holding it.

DISMOUNTING is effected by first bringing the horse to a stand-still; then shorten the left hand on the reins till it lies on the withers, with a steady feel of the mouth, twist a lock of the mane on the finger, and hold it with the reins; bearing also on the pommel with the heel of the hand. Next, throw the right foot out of the stirrup, and lift the body, steadied by the left hand, and borne by the left foot, until it is raised out of the saddle; throw gently the right leg over the cantle, and as it passes it grasp this part with the right hand; then lower the body gently to the ground by the aid of the two hands and the left foot; or, if it is a very short person and a tall horse, by raising the body out of the stirrup on the hands, and dropping to the ground by their aid alone.

MOUNTING WITHOUT STIRRUPS, while the horse is standing still, is effected as follows:

The rider stands opposite the saddle and takes hold of both the pommel and the cantle, keeping the reins in the left hand at the same time, and in the same manner as in ordinary mounting.

Now spring strongly from the ground; and by means of the spring, aided by the arms, raise the body above the saddle; then twist the leg over, while the right hand is shifted to the right side of the pommel, and by means of both the hands the body is steadied into the saddle.

MOUNTING WITHOUT STIRRUPS may, by very active men, be effected while the horse is going on, much in the same way as is seen constantly in the circus.

The rider runs by the side of the horse, laying hold of the pommel of the saddle with both hands strongly, and allowing

him to drag him along for two or three very long steps, he suddenly springs from the ground and is drawn into the saddle.

This feat is seldom achieved by the ordinary equestrian, but it is easier than it looks, and in riding to hounds is sometimes of great service with a fidgety horse.

DISMOUNTING WITHOUT STIRRUPS requires the horse to be brought to a stand-still; then, holding the reins in the left hand, both are placed upon the pommel, and by their aid alone the body is raised out of the saddle. The right leg is now thrown over the cantle, and in doing so the right hand seizes it, and with the left lowers the body to the ground.

MOUNTING AND DISMOUNTING on the off side merely require all the movements to be reversed, and, reading left for right and right for left, all the directions previously given are applicable.

It is very useful sometimes to be able to effect this, as some horses with defective eyes will more readily allow mounting on the off side than on the left.

MANAGEMENT OF THE SEAT AND REINS.

THE SEAT is the first thing to be settled, and it should always be fixed before anything else is done—that is, as soon as the body is placed in the saddle.

There are four things necessary to be attended to—first, the position of the weight, so as to be sufficiently forward in the saddle; secondly, the fixing of the knees on the padded part of the flap; thirdly, the proper length and position of the stirrups; and fourthly, the carriage of the body.

The weight of the body should be well forward, because the center of motion is close to the middle of the saddle; and as the weight is chiefly thrown upon the breech, if the seat is far back it is not in that part, but near the cantle that it is placed. But by sitting well forward the weight is distributed between the breech, thighs, and feet; and the horse is able to rise and fall in his gallop without disturbing his rider. The knees must be well forward to effect this seat, and also well in front of the stirrup-leathers; for if they are placed behind them the body is thrown too far back and the hold is insecure.

The object of all young riders should be to get as far forward as possible, so that the knee is not off the saddle; and they can scarcely overdo this part of the lesson by any effort in their power. Riding well upon the fork, with the knees upon the padded part of the flap, will insure a good position if the stirrups are not too short. These should be about the length which will touch the projecting ankle-bone when the legs are placed as above directed, but out of the stirrups; and

when they are placed in them, the heel should be about one inch and a half below the ball of the foot. This latter part receives the pressure of the stirrup in road-riding, but in hunting, or any other kind of field-riding, the foot is thrust "home," and the stirrup touches the instep, while the pressure is taken by the under part of the arch of the foot. The reason of this is, that in leaping, the pressure on the stirrup is almost lost; and if the toe only is placed within it, the foot is constantly coming out. Besides this, in the gallop, the attitude is of that nature that the spring of the instep is not wanted, the weight being too much thrown upon the foot, if standing in the stirrups; and if sitting down in the saddle, the feet should scarcely press upon the stirrups at all, and therefore the best place for them is where they will be most secure.

The body should be carried easily, balancing backward and forward or sideways, as required, but not forcibly. Instinct is here the best guide, and the rider should follow its precepts rather than attempt to adopt any preconceived rule. If the horse rears, he will feel called upon by nature to lean forward, and may even grasp the neck if needful, or anything but the bridle, which will only bring the horse back upon him. The body should not be held *stiffly* upright, but, short of this, it can scarcely be too still, the loins being slightly arched forward. The legs also should be as motionless as possible, and nearly perpendicular from the knee downwards; but, if anything, a little forward, the heel being well depressed, and the toes very slightly turned outwards. The shoulders should always be square—that is, at right angles to the road taken; and, whether trotting or galloping, neither of them should be advanced before the other.

THE REINS are to be taken up as soon as the seat is settled, and during that operation, with a young horseman, the horse should be held quiet by the groom, who stands on the off side with both the snaffle-reins in his right hand; or, if the horse is very fidgety, he may stand in front of him, with a snaffle-rein in each hand; and this almost always keeps quiet any but a thoroughly vicious horse. The groom should also hold the right stirrup for the rider to place his foot in. In gathering the reins up they are first raised by the right hand, and then placed in the left.

THE SINGLE REIN is held by placing all but the forefinger between the reins, and then turning them over that finger toward the off side, they are held firmly between it and the thumb. By this mode the hand has only to be opened, and the ends of the rein may be laid hold of by the right hand, to enable the left to shorten its grasp. When the hand is thus closed upon the rein, the thumb should be pointed to the

horse's ears, the little finger near upon the pommel of the saddle, and the elbow close to the side, which last is a necessary consequence of the above position of the hand; so that the equestrian has only to look to his part, and see that the thumb points to the ears, with the little finger down on the pommel, and he may be quite sure that his elbow is right.

With the single rein the management of the mouth is easy enough; nevertheless, there are various directions for the purpose adopted in different schools, which are dependent upon altogether conflicting principles. Every tyro knows that the horse turns to the left by pulling the left rein, and to the right by pulling the opposite one; and the problem to be solved is, to do this by one hand only. Now this in the single rein is easily effected by raising the thumb toward the right shoulder, when the right rein is to be pulled. or by drawing the little finger toward the fork for the left; in both cases by a turn of the wrist without lifting the whole hand.

But over and above this action on the mouth, and in many cases independent of it, is a movement which, in trained horses, is capable of much greater delicacy, and which depends upon the sensibility of the skin of the neck for its due performance. It is effected by turning the whole hand to the right or left *without any wrist action*, so as to press the right rein against the neck, in order to cause a turn to the left, and the left rein against the neck, for the opposite purpose; at the same time rather slackening the reins, so as not to bear upon the mouth by so doing. In this way a horse may be "cantered round a cabbage-leaf," as the dealers say, with a much greater degree of nicety and smoothness than by acting on the corner of his mouth. But highly broken horses, such as the military troop horses, are often too much used to their bits to answer to this slight and delicate manipulation.

I am well aware that some horses can never be taught it, but must always have the bearing on the mouth before they will turn; yet when it can be taught, it makes the animal so tractable and agreeable to ride that it is a highly desirable accomplishment; and I cannot, therefore, join in condemning its use, but should rejoice if it could in all cases be fully developed.

THE DOUBLE-REIN is held in two ways, but the best, in my opinion, is as follows:

First take up the snaffle-rein, and place it as before, except that the left rein is to be between the ring and middle fingers; then raise the curb-rein, and hook it on to the little finger, where it may be either left for use when wanted, or at once drawn over the forefinger to the proper degree of tightness, and pressed down upon it by the thumb; in which case the reins should all fall over the off side of the horse. By this

mode the curb-rein is always at the command of the right hand, and it may be shortened or let out in a moment, which is of constant occurrence in every day's ride. The hand is held as before, with the thumb pointing to the horse's ears; in turning, however, there is much less power of bearing on either side of the bit by raising the thumb or lowering the little finger, because the distance between the snaffle-reins is only half what it was, and therefore the mode of turning by pressure upon the neck is doubly desirable; and hence its constant adoption in all cases where doubled-reined bridles are used, as in the field and on the road.

Sometimes, to obviate this objection, the snaffle-reins are placed as in the single-reined bridle, outside the little finger, and then the curb is hooked over the ring-finger, between the snaffle-reins, so as to allow of the full manipulation of the mouth by the hand, without bearing upon the neck.

But the objection to this is that the curb cannot be shortened without releasing the snaffle, and therefore the horse must either be ridden on the curb alone, while this process is being effected, or his head must be loosed altogether, whereas in the other mode his mouth is still under the control of the snaffle all the time that the curb is being let out or taken in.

THE ORDINARY PACES.

THE WALK is a perfectly natural pace to the horse, but it is somewhat altered by use, being quicker and smarter than before breaking, and with the hind-legs more brought under the body in the perfect hack.

In this pace the head should not be too much confined, and yet the rider should not entirely leave it uncontrolled: the finest possible touch is enough, so that on any trip the hand is at once informed of it by the drop of the head, when by a sudden jerk of the bridle, not too forcible, it rouses the horse and prevents his falling. It is not that he is kept up by pulling the rein, but that he is roused by it and made to exert himself, for many horses seem regardless of falls, and would be down twenty times a-day if they were not stimulated by the heel and bit. Confinement of the head in the walk is absolutely injurious, and more frequently causes a fall than saves one.

A good walker will go on nodding his head to each step, more or less as it is a long or a short one; and if this nodding is prevented by the heavy hand of the rider, the fore-foot is not properly stretched forward, the step is crippled, and very often the toe strikes the ground; when if the head were at liberty, it would clear it well. In horses which are apt to stumble on the walk, I have generally found that a loose rein, with the curb held ready for a check, is the safest plan;

and then the horse soon finds that he is punished the moment he stumbles, and in a very short time he learns to recover himself almost before he is reminded. I do not like the spur or the whip so well because the use of either makes the horse spring forward, and often blunder again in his hurry to avoid this kind of punishment. The check of the curb, on the other hand, makes him recover himself without extra progress, or rather by partially stopping him, and thus he is better able to avoid his fall. The body is allowed to yield slightly to the motions of the horse, but not to waddle from side to side, as is sometimes seen.

Some horses do not stir the rider at all, while others throw him about and fatigue him greatly; and this may generally be foretold when the tail sways much from side to side in the walk, which is caused by the over-long stride of the horse, a very desirable accomplishment in the race-horse or hunter, but not in the hack.

THE TROT is altogether an acquired pace, and in the natural state it is never seen for more than a few yards at a time. In it the fore and hind-legs of opposite sides move together, and are taken up and put down exactly at the same moment.

TO START A HORSE IN THE TROT, take hold of both the reins of the snaffle, and bear firmly, but steadily, upon the mouth, lean slightly forward in the saddle, press the legs against the horse's sides, and use the peculiar click of the tongue, which serves as an encouragement to the horse on all occasions. If properly broken, he will now fall at once into the trot, but if he breaks into a canter or gallop he must be checked, and restrained into a walk or a very slow trot, called a "jog-trot."

In some cases a horse can canter as slow as he walks, and here there is often great difficulty in making him trot, for no restraint short of a total halt will prevent the canter. In such cases, laying hold of an ear will often succeed, by making the animal drop his head, which movement interferes with the canter, and generally leads to a trot.

RISING IN THE STIRRUPS with the trot is generally practiced in civil life, as being far less fatiguing to both horse and rider, but in the military schools the opposite style is inculcated, because among a troop of horse it has a very bad effect when a number of men are bobbing up and down, out of all time. If it were possible for all to rise together, perhaps the offense against military precision might be pardoned; but as horses will not all step together, so the men cannot all rise at the same moment, and the consequence is that they are doomed to bump upon the sheep-skins in a very tiresome manner, fatiguing alike to man and horse.

The civilian's mode is as follows: At the precise moment when the hind and fore-legs are making their effort to throw the horse forward in progression, the body of the rider is thrown forcibly into the air, in some horses to so great an extent as to make a young rider feel as if he never should come down again. After reaching the utmost height, however, the body falls, and reaches the saddle just in time to catch the next effort, and so on as long as the trot lasts. In this way the horse absolutely carries no weight at all during half his time, and the action and reaction are of such a nature that the trot is accelerated rather than retarded by the weight. No horse can fairly trot above 12 or 13 miles an hour without this rising, though he may run or pace it, so that it is not only to save the rider's bones, but also to ease the horse, that this practice has been introduced, and has held its ground in spite of the want of military sanction. It is here as with the seat, utility is sacrificed to appearances; and whenever the long and weak seat of the barrack-yard supplants the firm seat of the civilian, I shall expect to see the rising in the trot abandoned, but certainly not till then.

The military length is not now what it was thirty years ago, and perhaps, some time or other, they may adopt the rise, but I am afraid not until they have produced many thousands more sore backs than they need have done if they had never adopted it. In the trot, the foot should bear strongly on the stirrup, with the heel well down, and the ball of the foot pressing on the foot-piece of the stirrup, so that the elasticity of the ankle takes off the jar, and prevents the double rise, which in some rough horses is very apt to be produced. The knees should always be maintained exactly in the same place, without that shifting motion which is so common with bad riders, and the legs should be held perpendicularly from the knee downward; the chest well forward, the waist in, and the rise nearly upright, but slightly forward, and as easily as can be effected, without effort on the part of the rider, and rather restraining than adding to the throw of the horse.

THE MILITARY STYLE, without rising, is effected by leaving the body as much as possible to find its own level. The knees should not cling to the saddle, the foot should not press forcibly on the stirrup, and the hands should not bear upon the bridle.

By attending to these negative directions, the rider has only to lean very slightly back from the perpendicular, and preserve his balance, when practice will do all the rest.

THE CANTER is even more than the trot an unnatural and artificial pace. It can very seldom be taught without setting

a horse much upon his haunches, and very rarely, indeed, without the use of the curb-rein. It is a pace in which all the legs are lifted and set down one after the other in the most methodical manner; the near or off fore-leg leading off, as the case may be, but one foot being always in contact with the ground.

To Start the Canter with either Leg, it is necessary to pull the opposite rein, and press the opposite heel.

The reason of this is obvious enough; every horse in starting to canter (and many even in the canter itself), turns himself slightly across his line of progress, in order to enable him to lead with that leg which he thereby advances. Thus, supposing a horse is going to lead off with the off fore-leg, he turns his head to the left and his croup to the right, and then easily gets his off-leg before, and his near leg behind into the line which is being taken. Now, to compel him to repeat this action, it is only necessary to turn him in the same way, by pulling his head to the left, and by touching him with the left heel, after which he is made to canter by exciting him with the voice or whip, while at the same moment he is restrained by the curb. When once this lead is commenced, the hold on the curb and pressure on the legs may be quite equal; but if, while the canter is maintained, it is desired to change the leading leg, the horse must be collected and roused by the bit and voice, and then, reversing the pull of the reins and the leg-pressure from that previously practiced, so as to turn the horse in the opposite way to that in which he was started, he will generally be compelled to change his lead, which is called "changing his leg."

The Seat for the Canter is a very easy one, the knees taking a very gentle hold of the saddle, the feet not bearing strongly upon the stirrups, and the body tolerably upright in the saddle.

The hands must not be too low in this pace, but should keep a very gentle but constant pressure upon the bit, and should, if there is the slightest tendency to drop the canter, rouse the mouth by a very slight reminder, and also stimulate the fears by the voice or whip.

The Gallop is the most natural of all paces, being seen in all horses while at liberty, from the Shetland and dray-horse to the pure-bred race-horse. It is a succession of leaps, and differs from the canter in one important feature, which separates the one pace from the other. In the description of the latter pace I have said that one foot is always in contact with the ground; while in the gallop, whether fast or slow, there is always an interval in which the whole animal is suspended in the air, without touching the ground. Hence,

it is not true that the canter is a slow gallop, nor is the gallop a fast canter; but the two are totally distinct paces, as different as walking and running in the human subject. There is, however, the same variation in the leading leg, and the same mode of compelling the lead of one particular leg, as well as of causing the change of lead, though it is much more difficult to effect these objects in the faster pace than in the slower one.

THE PROPER SEAT IN THE GALLOP is either to sit down in the saddle or to stand in the stirrups, according to circumstances. The former is the usual seat, and it is only in racing or in the very fast gallop at other times that the latter is adopted. In sitting down, the feet may be either resting on the ball of the toe, as in the other paces, or with the stirrup "home" to the boot, as is common in all field-riding. The body is thrown easily and slightly back, the knees take firm hold, the rider being careful not to grip so tight as to distress the horse, which fault I have known very muscular men often commit. The hands should be low, with sufficient pull at the mouth to restrain him, but to annoy and make him "fight;" and if he is inclined to get his head down too much, or the reverse, they must be raised or lowered accordingly. When the standing in the stirrups is to be practiced, the weight is thrown upon them, steadying it with the knees, which should keep firm hold of the saddle-flaps. The seat of the body is carried well back, while at the same time the loin is thrown forward; but by this combined action the weight is not hanging over the shoulder of the horse, as it would be, and often is, when the breech is raised from the saddle and brought almost over the pommel, with the eyes of the rider looking down his horse's forehead, or very nearly so.

If a jockey with a good seat is watched, it will be seen that his leg does not descend straight from the knee, but that it is slightly thrown back from that line, and consequently that his center of gravity is behind it, so that he can, by stiffening the joint, carry his body as far behind it as his stirrup is, without ceasing to stand in it. This seat cannot long be maintained without fatigue to the rider, and it is only adopted in racing or in short gallops over bad ground, as in hunting, when there is a deep piece of fallow, or a steep hill, or any other kind of ground calculated to tire the horse.

THE VARIETIES OF THE GALLOP are the hand-gallop, the three-quarter gallop, and the full-gallop, which is capable of still further extension in the "racing setto." They are all, however, modifications of the same pace, varying only in the velocity with which they are carried out.

EXTRAORDINARY MOVEMENTS.

Besides the paces of the horse which are required for his use by man, there are also certain movements very commonly met with, but by no means desirable, and others which are taught him for man's extraordinary purposes; the former are called vices, the latter are more or less the result of the *manege*, or breaking-school.

The vices are—first, stumbling; secondly, cutting and rearing; thirdly, shying; forthly, kicking; fifthly, plunging; sixthly, lying down; seventhly, shouldering; and eighthly, running away. The *managed* actions are backing, passaging, etc.

STUMBLING is caused by defective muscular action in all cases, though there is no doubt that in many horses this defect is aggravated by lameness, either of the feet or legs, or from defective shoeing.

Some horses can never be ridden in safety for many miles, although they will "show out" with very good action; and this is caused by the muscles which raise and extend the leg tiring very rapidly; after which the ground is not cleared by the toe, and when it is struck *there is not power to recover* from the mistake. Many careless and low goers are constantly striking their feet against stones, but having strong extensions they draw their feet clear of the obstacle, and easily recover themselves; while those which are differently furnished, although they strike with less force, yet they have no power to help themselves, and therefore they fall. The one kind may be kept on their legs by constant rousing and severity, but the weak ones are never safe. In the stumbling from lameness or soreness the most humane course, as well as the safest, is either to dismount and lead the horse, or to keep him alive by the use of the whip or spur. Humanity, taking a middle course by riding quietly, is sure to lick the dust, and the plan should never be attempted.

But there are many kinds of careless stumbling; one arises from the toe touching although well thrown over; but the knee-action being low, the foot is not cleared. This is not a very dangerous kind, and is generally recovered from. The next is from the foot being put down too far back, and too much on the toe, so that the pastern, instead of settling into its proper place behind the perpendicular of the foot, "knuckles over" in front, and so causes the leg to lose its power of sustaining the weight. Here the horse does not generally fall unless the other leg follows suit; but it is a very unpleasant accident, and if a horse is liable to it he is never to be considered safe. Such animals are very deceptive to the young and inexperienced, because they generally

lift their knees high, and lead to the supposition that they are safe and good goers. But if they are watched they will be seen to put their feet down behind a perpendicular line, drawn from the front of their knees; and when that is the case the kind of stumbling here alluded to is always to be expected.

There is also the stumbling from putting the foot on a rolling stone, which gives way at the moment of bearing the weight, and thus throws the horse off his balance, so as to occasion him to make a mistake with the other leg, which will be greater or less according to his good or bad action. Lastly, there is a stumble resulting from tender soles or frogs, in which the feet being placed upon a sharp stone, so much pain is occasioned that the knee is allowed to give way, and the same effect is produced as in the accident caused by a rolling stone, but often in a much more marked degree.

THE REMEDY FOR STUMBLING will, in all cases, depend upon the cause.

If this is from weakness, no care or good riding will prevent a stumble, though it may avert an absolute fall by taking care to sit well back, and to be on the guard against being pulled over the shoulder in case of a serious mistake. There is no use in holding a horse hard in such a case; he should be kept alive, but not hurried, because the more tired he is the more likely he is to come down. Great judgment, therefore, will be necessary to "nurse him" to his journey's end; and this will be best done by an occasional relief to his back and walking by his side. No one should ride such a horse habitually; but if, unfortunately, he finds himself on him, and some miles from home, the above is the best course to pursue.

When, however, the stumbling is from decided laziness, the only course is to catch hold of the horse's head and use the whip or spur, or both, pretty severely. Many horses are quite safe at their top speed on the trot, but at a half-trot they are never to be trusted. The experienced horseman readily detects the exact pace which his horse can do with the greatest ease and safety, and keeps him to that. Some can trot downhill safely, but are always tripping on level ground (these are low-actioned horses with pretty good shoulders); others, again, always trip going downhill from overshooting themselves, and of course each must be ridden accordingly.

When lameness is the cause of failure, the remedy is either to have the shoe taken off and rectified, if that is the cause, or if in the joints, ligaments, or sinews, to give rest, and adopt the proper remedies.

CUTTING is caused by the horse touching one leg with the other shoe or foot, and it may be either of the ankle or pastern joint, or of the inside of the leg, or just below the knee, which last is called the speedy cut. It arises from the legs being set on slightly awry, so that the action is not striaightforward; and this is aggravated by weakness or want of condition, so that a horse often cuts when poor, though he is quite free from the vice when high in flesh. The cutting may be either of the fore or hind-leg.

The remedy is either to alter the shoeing, or to apply a boot.

REARING is a coltish trick, which is generally lost as the horse grows older; it is not nearly so common now as it used to be, and a bad rearer is not often seen.

When in an aggravated form it is a frightful vice, and with an inexperienced rider may be attended with fatal mischief. In slight cases it consists in the horse simply rising a little before and then dropping again, as if from play only; but in the worst form it is a systematic attempt to throw the rider, and sometimes the horse goes so far as to throw himself back as well.

THE REMEDY for this vice is the martingale, which may either be used with rings running on the snaffle-rein, or attached directly to that bit by the ordinary billet and buckle; or, again, by means of a running-rein, which commences from the breast-strap of the martingale, and then running through the ring of the snaffle with a pulley-like action, it is brought back to the hand, and it may thus be tightened or relaxed according to circumstances, so as to bring the horse's head absolutely down to his brisket, or, on the other hand, to give it entire liberty without dismounting. It is a very good plan with an experienced horseman, but its use should not be attempted by any other. With a determined brute nothing short of this last kind will prevent rearing; and even it will fail in some cases, for there are some horses which rear with their heads between their forelegs. Nevertheless, happily, they are rare exceptions, and with the majority the martingale in some form is efficacious. It should never he put on the curb-rein with rearers; and, indeed, a curb is seldom to be used at all with horses addicted to that vice; they are always made worse by the slightest touch of the bit, and unless they are very much inclined to run away, it is far better to trust to a straight bit or plain snaffle, which by not irritating the mouth will often induce them to go pleasantly, whereas a more severe bit would tempt them to show their temper by rearing. Breaking a bottle of water between the ears, or a severe blow in the

same part, may in some cases be tried, but the continued use of the martingale will generally suffice.

There is also a mode of curing rearers, sometimes attempted, by letting them rise, and then slipping off on one side and pulling them back; but it is a dangerous feat for both horse and rider, and has often led to a broken back on the part of the horse, as well as sometimes to severe injury to the rider.

It is scarcely necessary to remark that the rider should, in all cases, lean well forward and relax the bridle while the horse is in the air.

SHYING is sometimes the effect of fear, and sometimes of vice, and there are many horses which begin by the former and end with the latter, in consequence of mismanagement.

The young colt is almost always more or less shy, especially if he is brought at once from the retired fields where he was reared to the streets of a busy town. There are, however, numberless varieties of shyers, some being dreadfully alarmed by one kind of object, which to another is not at all formidable. When a horse finds that he gains his object by turning round, he will often repeat the turning without cause, pretending to be alarmed, and looking out for excuses for it. This is not at all uncommon, and with timid riders leads to a discontinuance of the ride, by which the horse gains his end for the time, and repeats the trick on the first occasion. In genuine shying from fear the eyes are always more or less defective, but sometimes this is not the cause, which is founded on a general irritability of the nervous system. Thus, there are many which never shy at meeting wagons, or other similar objects, but which almost drop with fear on a small bird flying out of a hedge, or any other startling sound. These are also worse, because they give no notice, whereas the ordinary shyer almost always shows by his ears that he is prepared to turn.

FOR SHYERS the only remedy is to take as little notice as possible, to make light of the occurrence, speak encouragingly, yet rather severely, *and to get them by the object somehow or other*. If needful, the *aid* of the spur and whip may be called in, but not as a *punishment*. If the horse can be urged by the object at which he is shying without the whip or spur, so much the better, but if not, he must be compelled to do so by their use. Whenever fear is the cause of shying, punishment only adds to that fear; but where vice has supplanted fear, severity should be used to correct it.

As a general rule the whip need never be used, unless the horse turns absolutely round; and not then unless there is reason to suspect that he is pretending fear. If only he will

go by the object, even with "a wide berth," as the sailors say, he may be suffered to go on his way unpunished; and nothing is so bad as the absurd severity which some horsemen exercise after the horse has conquered his reluctance, and passed the object. At this time he should be praised and patted, with all the encouragement which can be given; and on no account should he be taught to make those rushes which we so commonly see on the road, from the improper use of the whip and spur.

If punishment is necessary at all it must be used beforehand; but it often happens that the rider cannot spare his whip-hand until the shying is over; and then, in his passion, he does not reflect that the time is gone by for its employment.

KICKING is a very unpleasant vice, either in the saddle or in harness, but it is not so dangerous in the former as in the latter; its nature is too well known to need description. It is often the result of play, but quite as frequently it arises from a vicious desire to get rid of the rider.

THE PROPER MODE of treating a kicker is to catch fast hold of the head, and keep it well up, and then to use the whip down the shoulder severely. If the head is not well in hand he will often kick the more, but if the head is kept up while the blow is given, he will generally desist. A gag-snaffle is very useful with confirmed kickers, as it serves to keep the head up better than any other bit.

PLUNGING consists in a series of bounds or springs, by which the horse evidently hopes to relieve himself of his burden. His back is generally rounded, and very often he will "buck," or jump off the ground perpendicularly, by which a weak rider is sure to be unseated.

The remedy is to sit still, and keep the head confined, though not too closely. Very often plunging is followed by a fit of kicking, for which the rider should be prepared. If there is reason to expect that a horse will commence this trick, a cloth, rolled like a soldier's cloak, and buckled to the front of the saddle, is a great assistance, and will often save a fall when the seat is not very good.

LYING DOWN is a vice which only Welsh ponies, and other obstinate brutes, indulge in, and it is seldom met with in English-bred horses. The spur will sometimes keep them up, but in bad cases there is no remedy but submission.

SHOULDERING is also a trick only met with among badly bred horses, though sometimes horses of all breeds, if they have been badly broken, will adopt this expedient, by attempting to crush the knee against a wall or paling. If, however, the hand and foot are put strongly out, the horse

cannot use enough lateral pressure to overcome their resistance, and no harm is done.

RUNNING AWAY is only an extreme form of pulling in the gallop, but sometimes it is of a most vicious description, and the horse gallops as if maddened by excitement. It is a most dangerous vice, as it is generally practiced at times when it is most inconvenient, as in crowded thoroughfares, etc.

FOR HORSES WHICH RUN AWAY, various severe bits have been invented, but nothing has ever yet been introduced which is so successful as the Bucephalus nose-band.

It is a good plan in determined brutes to make them gallop to a stand-still, by giving them an uphill burster, which may generally be managed, though there are some which are only made worse by this treatment. Still it generally succeeds, and most horses are rendered quiet for some time by such an effort. Nevertheless, they generally try again as soon as they are fresh, and they are seldom to be trusted with any riders but good horsemen. It is of no use to pull dead at these animals, but it is better to let them go when there is plenty of room, and then to try what a sharp and severe pull will do—not keeping it up too long if ineffectual, but loosing the mouth again for a time, and then trying again. Sometimes, however, there is no room for this, and then the only plan is to try and bring the head round, either with a view of galloping in a circle, or to run the head against a fence, or even a wall or strong gate. Sometimes anything is better than a straight course—as, for instance, into a crowded thoroughfare, where there would be an almost positive certainty of mischief; and in such a case it is better to do anything than to persevere in the course which the runaway is taking. Here the horse must be pulled into anything which will stop him, such as a thick hedge or a park wall, or any similar insurmountable obstacle; and all risks must be run of damaging him, or even his rider, who will, however, generally escape with slight bruises if the horse is run full tilt against the object, and not too obliquely, which will not at all answer the purpose.

BACKING is necessary for all horses to be taught, though not so often required in riding as in harness-horses. It is always one of the first things drilled into the colt by his breaker, and the finished and broken horse will, as a matter of course, readily obey the hand of the rider when he gently draws him back. The pull should not be harder than the particular mouth requires, some horses being easily irritated by too severe a confinement of the mouth. If a horse obstinately refuses to stir, the bit may be gently "sawed" from side to side, which seldom fails to make him stir.

When backing is adopted by the horse with vicious intentions, and contrary to the will of his master, it is called "jibbing," and is a most unmanageable trick, for which the best remedy is patience. Punishment never answers, and the horse only jibs the more; but by quietly waiting until he is tired, the animal will generally give up the fight, and continue his progress in the desired direction.

PASSAGING is a feat of horsemanship never used in this country except in the military schools. It is the action of the horse by which he moves sideways, using the two legs of each side at a time, and following them up, advancing them to the right or left by bringing the other two up to them.

THE RIDE.

THE RIDE is the putting into practice all the directions which have already been given. When the orders have been issued for a horse to be prepared, he is brought to the door ready saddled and bridled. It is the groom's duty to place the saddle properly on; but it is as well that the master should know how and where to put it on.

The common direction is to put the saddle "one hand's-breadth behind the shoulder-blade," but this is too far back, and few saddles will remain there; it is far better to place it at once where it fits than to give it room to come forward, because the girths only become more slack as it shifts, and allow it to press still more forward than it otherwise would; whereas, if it had been first placed where it soon traveled forward, the girths would have kept tight, and it would have moved no further.

A better rule is to place the saddle where it fits, taking care to have it as far back as it *will* fit. The bridle should be put on, with the bit neither too high nor too low in the mouth, and with the throat-lash of the proper tightness, which points can only be learned from experience. After leaving the stable, and if the weather is fine, walking the horse about for a few minutes, the girths will generally require tightening, which the groom should see to. When the horse is to be mounted, the rider, if he cannot fully depend upon his groom, should see to his girths, and that his bridle is properly put on, with the curb of the right degree of tightness, if he uses a double-reined bridle. As soon as this is settled, the groom brings the horse up to the door, holding it with the left hand by the snaffle-reins, and bearing upon the off stirrup to resist the weight if the rider is a heavy man, which will prevent the saddle from twisting. The rider then mounts, and puts his horse into a walk, which should always be the pace for the commencement of a ride for pleasure. He may in this pace, as I have already explained, give his horse considerable lib-

erty of the head, and he will have no difficulty in turning him to the right or left, either by the use of one hand or both, or by bearing upon the neck according to the mode to which the horse has been broken. After a short distance he may practice the various paces, and if he is inclined to learn to ride well, he may at times throw the stirrups across the saddle, and attempt to canter without them.

In learning to ride without stirrups, it is a very good plan to have the inside of the trousers lined with a strip of black leather, in the French fashion, which takes a good grip of the saddle; for with cloth trousers and a smoothly polished saddle there is very little hold to be obtained, and the balance alone must preserve the seat. With this addition all the paces may soon be mastered without the aid of the stirrups; but the trot will be the last of necessity, because it is by far the most difficult. No rise can now be managed, and the body must be suffered to take its chance upon the saddle, leaning back to rather more than the perpendicular position, and not attempting to do more than keep the balance. When riding without stirrups, the feet should be carried in the same position as if they were being used, the heel being carefully depressed, and the toes raised by the muscular power of the leg.

FEMALE HORSEMANSHIP.

THE SADDLERY for the use of ladies is similar in *principle* to that devoted to the gentlemen's riding, with the exception that the bits and reins of the bridle are lighter and more ornamental, and the saddle furnished with crutches for side-riding. The reins are narrower than those used by gentlemen, but otherwise the same. Until lately they were rounded, and the nose-band fringed, but all ornament is now out of fashion.

The side-saddle should be carefully fitted to the horse, and there should always be a third-crutch, the use of which will hereafter be explained. There is an extra leather girth, which keeps the flaps of the saddle in their places. The stirrup may either be like a man's, with a lining of leather or velvet, or it may be a slipper, which is safer, and also easier to the foot. The lady's whip is a light affair; but as her horse ought seldom to require punishment, it is carried more to threaten, than to give punishment. A spur *may* be added for a lady's use; and for those who hunt, it is sometimes needful for the purpose of giving a stimulus at the right moment. If used, it is buckled on to the boot, and a small opening is made in the habit, with a string attached to the inside, which is then tied round the ankle, and thus keeps the spur always projecting beyond the folds of the habit. A nose-martingale

is generally added for ornament; but no horse which throws his head up is fit for a lady's use.

THE LADY'S HORSE ought to be the most perfect of hacks, instead of being, as he often is, a useless brute, fit only to be shot.

Many men think that any horse gifted with a neat outline will carry a lady, but it is a great mistake; and if the ladies themselves had the choice of horses, they would soon decide to the contrary. The only thing in their favor in choosing a lady's horse is that the weight to be carried is generally light, and therefore a horse calculated to carry them is seldom fit to mount a man, because the weight of the male sex is generally so much above that of an equestrian lady. Few of this sex who ride are above 126 pounds, and most are below that weight, and a horse which will be well up to 140 pounds, including the saddle, will not be able even to waddle under 168 pounds or upward. But in point of soundness, action, mouth and temper, the lady's hack should be unimpeachable; and these are the points that constitute a perfect hack for either sex. Again, a gentleman's hack may be good, yet wholly unable to canter, and so formed that he cannot be taught; he therefore is unsuited to a lady; but, on the other hand, every lady's horse should do all his paces well. Many ladies, it is true, never trot, but they should not be furnished with the excuse that they cannot, because their horses will not.

In size, the lady's horse should be about fifteen hands, or from 14 1-2 to 15 1-2; less than this allows the habit to trail in the dirt, and more makes the horse too lofty and unwieldy for a lady's use.

IN BREAKING THE LADY'S HORSE, if he is of good temper and fine mouth, little need be done but to make him canter easily, and with the right leg foremost. This is necessary, because the other leg is uncomfortable to the rider, from her side position on the saddle; the breaker, therefore, should adopt the means already described, and persevere until the horse is quite accustomed to the pace, and habitually starts off with the right leg. He should also bend him thoroughly, so as to make him canter well on his hind-legs, and not with the disunited action which one so often sees. The curb must be used for this purpose, but without bearing too strongly upon it; the horse must be brought to his paces by fine handling rather than by force, and by occasional pressure, which he will yield to and play with if allowed, rather than by a dead pull. In this way, by taking advantage of every inch yielded, and yet not going too far the head is gradually brought in, and the hind-legs as gradually are thrust forward, so as

instinctively to steady the mouth, and prevent the pressure which is feared. When this "setting on the haunches" is accomplished, a horse-cloth may be strapped on the near side of the saddle, to accustom him to the flapping of the habit; but I have always found, in an ordinarily good-tempered horse, that if the paces and mouth were all perfect the habit is sure to be borne.

It is a kind of excuse which gentlemen are too apt to make, that their horses have never carried a lady; but if they will carry a gentleman quietly, they will always carry a lady in the same style, though that may not perhaps be suitable to her seat or hands.

THE DIRECTIONS FOR HOLDING THE REINS, and for their use, already given, apply equally well to ladies: the only difference being that the knee prevents the hand being lowered to the pommel of the saddle. This is one reason why the neck requires to be more bent than for the gentleman's use, because if it is straight, or at all ewe-necked, the hands being high, raise the head into the air, and make the horse more of a "star-gazer" than he otherwise would be. Many ladies hold the reins as in driving, the directions for which are given in the next chapter. It is in some respects better, because it allows the head to be lower than in the gentleman's mode, and the ends of the reins fall better over the habit.

IN MOUNTING, the horse is brought to the door by the groom, and held steadily, as for a gentleman's use, taking care to keep him well up to the place where the lady stands, from which he is very apt to sidle away. The gentleman assistant then places his right hand on his right knee, or a little below it, and receives the lady's left foot. Previously to this, she should have taken the rein in her right hand, which is placed on the middle crutch; then, with her left on the gentleman's shoulder, and her foot in his hand, she makes a spring from the ground, and immediately stiffens her left leg, using his hand, steadied by his knee, as a second foundation for a spring; and then she is easily lifted to her saddle by the hand following and finishing her spring with what little force is required. As she rises, the hand still keeps hold of the crutch, which throws the body sideways on the saddle, and she then lifts her right knee over the middle crutch. After this she lifts herself up from the saddle, and the gentleman draws her habit from under her until smooth; he then places her left foot in the stirrup, including with it a fold of her habit, and she is finally seated, and should take her reins and use them as directed for the gentleman.

The great mistake which is constantly made in mounting is in the use of the lady's knee, which should be carefully straightened the moment it can be effected; for if kept bent

it requires great power to lift a lady into the saddle, whereas with a good spring and a straight knee she ought to weigh but a very few pounds in the hand.

THE LADY'S SEAT is very commonly supposed to be a weak one, and to depend entirely upon balance, but this is the greatest possible mistake; and there can be no doubt, from what is seen in private as well as in the circus, that it requires as great an effort of the horse to dislodge a good female rider as to produce the same effect upon a gentleman. Even with the old single crutch there was a good hold with the leg, but now that the third is added, the grip is really a firm one. When this is not used, the crutch is laid hold of by the right leg, and pinched between the calf of the leg and the thigh, so as to afford a firm and steady hold for the whole body, especially when aided by the stirrup. But this latter support merely preserves the balance, and is useful also in trotting; it does not at all give a firm, steady seat, though it adds to one already obtained by the knee. When two crutches are used, the leg is not brought back so far as to grasp the crutch as before, but between the two knees the two crutches are firmly laid hold of, the upper one being under the right knee, and the lower one above the left. The right knee hooked over the crutch keeps the body from slipping backward, while the left keeps it from a forward motion, and thus the proper position is maintained.

In all cases the right foot should be kept back, and the point of the toe should scarcely be visible. These points should be carefully kept in view by all lady riders, and they should learn as soon as possible to steady themselves by this grasp of the crutches, without reference to the stirrup-iron. In spite of her side-seat, the body should be square to the front, with the elbow easily bent, and preserved in its proper position by the same precaution.

The whip is generally held in the right hand, with the lash pointing forward, and toward the left, and by this position it may be used on any part of the horse's body, by reaching over to the left, and cutting before or behind the saddle, or with great ease on the right side. Its use may, therefore, in all cases be substituted for the pressure of the leg in the description of the modes of effecting the change of leg, turning to the left or right, or leading with either leg. With this substitution, and with the caution against all violent attempts at coercion, which are better carried out by the fine hand and delicate tact of the lady, all the feats which man can perform may well be imitated by her.

IN DISMOUNTING, the horse is brought to a dead stop, and his head held by an assistant; the lady then turns her knee

back again from the position between the outside crutch, takes her foot out of the stirrup, and sits completely sideways; she then puts her left hand upon the gentleman's shoulder, who places his right arm round her waist, and lightly assists her to the ground.

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DRIVING.

VARIETIES OF CARRIAGES.

CARRIAGES used for pleasure, as distinguished from stage and hired carriages, are of numerous kinds, and have received an immense number of distinguishing names, some of which are only in vogue during a short reign, while others are long favorites of the driving public.

The chief division is fourfold—First, two-wheeled open carriages; secondly, two-wheeled headed carriages; thirdly, four-wheeled open carriages; fourthly, four-wheeled close carriages.

TWO-WHEELED OPEN CARRIAGES used by private parties are—the Dog-cart, the Dennet gig, the Tilbury, the inside and outside Irish car.

IN THE DOG-CART, the body of which is more or less square, with two seats back to back, there is a large boot capable of taking dogs or luggage, and hence its general usefulness in the country.

The springs are generally a single long side-spring, and the shafts are usually of lance-wood. They are made to shift the balance in case of their being used by two persons only, for which purpose various contrivances are adopted.

IN THE DENNET, or Stanhope gig—which latter is now almost exploded on account of its weight, and its so severely trying the back and legs of the horse—there is only room for two persons. The seat is generally rounded at the angles, and either railed or paneled; and the boot is plain and small, as compared with the dog-cart.

In the peculiar principle first introduced by Fuller, of Bath, the shafts are of lance-wood, often combined with whalebone, and the knee-motion derived from the horse is almost totally got rid of. Upon this depends the comfort of all two-wheeled vehicles, and especially where two persons only are accommodated; for, in many old-fashioned Dennets the motion was worse than any high-trotting horse. The shaft is tapered at the back-end and attached to a cross-spring, so that the fulcrum at the drawing-bar is in the center of two long springs—one between it and the horse's pad, the other between it and the back of the gig; and as they play easily,

the two fixed points at the fulcrum and the back remain stationary. When properly balanced, this gig ought not to press upon the horse's back on level ground more than a few ounces, or just sufficient to prevent its bearing back, and thus straining the belly-band and fretting the horse in that way.

THE TILBURY is a gig of a totally different construction, and being suspended upon leather braces, its motion is much softer than the Dennet; but what it gains in this respect it loses in knee-motion, which is very considerable. There is no boot, but a skeleton body is attached to a plated and therefore rigid shaft, by means of a spring projecting in front, and attached by a brace, and another projecting behind, suspended to a cross-spring by a long leather brace. This cross-spring is raised from the cross-bar at the back of the shafts by iron stays in a T-like form; and it was supposed when it was first invented that the leather brace would allow of the shaft moving with the horse without influencing the gig. This hypothesis was, however, not found to be consistent with the fact, as the Tilbury is found to receive a most uncomfortable motion from the horse, and to communicate it to the rider; and no plan has yet been discovered by which this can be remedied. By setting the cross-spring well back, and thus straining the braces apart, some improvement is effected; but it is still a very uneasy gig, as compared with Fuller's Dennet, which has maintained its superiority for the last 25 years, although hard pressed by the cheap substitutes which have been extensively adopted in its place, in the shape of dog-carts, etc.

IN THE IRISH CAR the passengers are placed opposite one another in the inside car, and back to back in the outside variety, but in both cases sideways as regards the line of progress. They were formerly a good deal used in this country, but are now almost entirely superseded by the various dog-carts.

Besides the above two-wheeled carriages there are several varieties of the dog-cart, as the Whitechapel, the Malvern, the Croydon basket-cart, etc.

THE TWO-WHEELED HEADED CARRIAGES consist of the cabriolet, the Hansom's cab, the Duobus, the Nottingham cottage-cart, and the headed Dennet.

THE CABRIOLET is a very handsome vehicle, but it is very heavy, both in actual weight and in draught; and also very severe upon the horse's back and legs. It consists of a peculiarly shaped body, with a wooden knee-boot, incapable, therefore, of being folded up, and consequently very hot in

summer; the head will let down if desired; the springs are somewhat similar in principle to those of the Tilbury, except that they are of the C shape instead of the T.

This vehicle is not well suited for country use, but for town work there is nothing so well adapted for those who usually drive themselves. A board is placed behind for the groom to stand upon, and his weight materially diminishes the knee-motion inside. Cabriolets cannot well be built under 7 1-2 to 8 cwt., and most of them weigh 9 cwt.

THE HANSOM CAB is generally a street vehicle, but sometimes it is adapted to private use, and makes a most comfortable one for professional men or for bachelors, though I cannot see in what it is superior to the Brougham. In a moderately hilly country, I know from experience that it is beaten by any light four-wheeled carriage, because it distresses the horse in going uphill or down. It consists of a roomy, cab-shaped body, of peculiar construction, which must be familiar to all, and with the seat for the driver behind, so that he drives over the head of his master. In consequence of the high wheels which can be employed, these vehicles run very light on level ground, and they are much liked on account of the speed with which the horse can get along. They are on Dennet springs, and with plated ash-shafts; but, as they are evenly balanced, there is no knee-motion.

THE DUOBUS is a mere slice of an omnibus placed upon two wheels, and is an awkward and troublesome carriage in every respect. It is entered behind, and the driver sits on one side. These also are on Dennet springs; and with lance-wood shafts they may be rendered free from knee-motion.

THE NOTTINGHAM COTTAGE-CART is a very useful vehicle for the sportsman of limited means, who wishes an occasional close carriage for evening work or wet weather. It is well adapted for ordinary use, exactly like a roomy dog-cart; but it opens upward behind to form a head, and downward to make a foot-board, so that the two hind-seats are completely under cover. I can speak fully as to its merits and demerits, being really the inventor of it, as I had one built from my own designs in the spring of the year 1851, and used it fully two years before the Nottingham cart was brought out, on a plan precisely similar to mine. Whatever merit, therefore, may belong to the invention is clearly mine, and I really believe it is a very serviceable cart for the purpose above specified The only drawback is that the wheels throw the dirt in behind, and unless the weather is cold enough to allow of its being shut up closely, it is a very troublesome fault indeed. The same applies to dusty roads, in which condition this cart is

absolutely stifling; but, as I said before, for night work, or as a defense against rain, it is very useful, and it will, on ordinary occasions, hold several dogs, either for shooting or coursing.

THE HEADED DENNET is a very uncomfortable kind of close carriage, because the head is obliged to be made very high and shallow; the wind, therefore, beats the rain in very much, and it is not nearly so good a protection as a gig-umbrella, which may be made a very tolerable protection from rain.

OPEN FOUR-WHEELED CARRIAGES consist of the britschka, the barouche, the various phaetons, and the sociable.

THE BRITSCHKA AND THE BAROUCHE may be considered together, as they are alike in springs and general principle, though different in the shape of the body. In the former this is straight at the lower edge (called the rocker), and with a very low driving-box, it being generally used for traveling post. In the latter the rocker is boat-like, and the coach-box is raised considerably above the level of the inside seats. Both have a single head behind, and a knee-boot in front, which either turns down and protects the inside passengers' legs, or when turned back it serves to protect the two who ride with their backs to the horses. The britschka generally has a rumble behind, but the barouche is not often supplied with that appendage. Both are on C springs, with elliptic springs under, and both have a perch.

THE VARIOUS PHAETONS, including the Sociable, are difficult to define, but they are generally distinguished by the absence of the C springs and perch. They have almost always elliptic springs, similar in principle to those shown under the C springs, but lighter in make. Sometimes, however, as in the Mail Phaeton, they have them of a different construction, there being four springs behind and three before, constituting in the first case a square, and in the second three sides of that figure. These are attached, as in the Stanhope, behind; and, like the Dennet, before; but that they generally have leather braces instead of iron shackles. There is also a perch in the regular Mail Phaeton, which is, however, sometimes dispensed with in the smaller kinds built in the same general form, but with elliptic springs, and then called Stanhope Phaetons—*lucus a non lucendo*, that is, because they have dispensed with Stanhope springs. This is a curious exemplification of the *non sequitur*, and the strongest with which I am acquainted; for it really is the fact, that the phaeton with the Stanhope springs is called a Mail Phaeton, and without them a Stanhope Phaeton.

The bodies of these phaetons are of every form which can

be contrived to accommodate four or six persons, and they rejoice in distinguishing names almost without end, as, the Pilentum, the Cab-bodied, the Sociable (now very fashionable), the George IV., the Albert, the Stanhope, the Four-wheeled Dog-Cart, etc., etc.

FOUR-WHEELED CLOSE CARRIAGES are much less numerous, and are soon summed up under the following short list:

First, the Family Coach; second, the Chariot; third, the Clarence; fourth, the Brougham. It is true that there are infinite variations made in each of the above, but very slight as compared with the previously described carriages.

THE COACH has the same C and under springs as the britschka, with the perch also. It is, however, completely covered in, having only a single glass on each side, capable of being raised or lowered.

THE CHARIOT is similar in all respects to the coach, except that it only holds two, and has glasses in front as well as on the sides. This carriage, when made to open, is called a LANDAULET.

THE CLARENCE has a light body, to hold four, but placed on elliptic or grasshopper springs, and without a perch. It is much lighter in every way than the coach, but neither so easy nor so free from noise. From its lightness it is still much used in the country, but in New York it is now becoming again supplanted by the carriages with C springs.

THE BROUGHAM is to the Clarence what the chariot is to the coach, but some Broughams are so made as to hold four people, and are then called round-fronted Broughams. Their great advantage is, that they may tolerably well be used with one horse, which to many people is a great object. Of late a spring has been invented, by which the C spring is introduced without the perch, which is generally connected with that soft and yielding kind of spring. This is said to remedy the great defects of these carriages, namely, their peculiar hum to the ear of the inside traveler, which becomes very distressing after a time, and to avoid it small chariots have been for some years built with light iron perches. Their weight, however, is nearly double that of an ordinary Brougham, and they are quite beyond the powers of one horse for more than a very short drive.

I have never myself tried the spring, but it appears to me to be a very useful mode of doing away with some part of the jar and noise incidental to the Brougham; nevertheless, that connected with the fore-spring must still remain, and, consequently, I am afraid the object is only in part attained; but, as I before remarked, I have not put the matter to the test by actual experiment.

HARNESS.

HARNESS is differently constructed, according to the purpose for which it is intended. Thus there are the following—viz., gig harness, phaeton harness, chariot harness, tandem harness, and four-horse harness, according as each variety is intended for the purpose of being attached to the kind of carriage prefixed to the general title.

GIG HARNESS, which is equally suitable for single horse phaetons, or, in fact, for any single work, consists of three portions—first, the drawing part; secondly, the part for holding the shafts of the gig up and back; and thirdly, that for guiding the horse.

The DRAWING PART consists of the COLLAR, which is an oval ring padded to fit the shoulders, or of a BREAST STRAP, being merely a broad and padded strap, crossing in front of the shoulder parts. If the collar is used, two iron bars, called HAMES, are buckled on each side by means of a leather strap at top and bottom, called a HAME STRAP, which passes through an eye at the end of each hame, and is afterward drawn tight and buckled. Toward the top of each hame is a ring, called a HAME TERRET, for the reins to pass through; and a little below the middle there is an arm, with a metal eye, to which the TUG of the trace is attached. This tug, again, is stitched into a double piece of leather, which is attached to the buckle for the TRACE. This last is simply a long double leather strap, attached at one end to the above buckle, and to the other by an eye to the drawing bar of the gig.

The supporting and backing part consists of the PAD or SADDLE, somewhat similar in principle to the riding saddle, but much narrower and lighter. This has two rings for the reins, called the TERRETS, and a HOOK for the bearing rein, all at the top. It is fastened to the horse by a BELLY-BAND, and at the back of it there is an eye for the crupper, which is a leather strap from it to the tail, round the root of which it passes, and thus holds the pad from pressing forward. Through the middle of the pad passes a strong leather strap, called the BACK-BAND, which is attached to a buckle and strong loop on each side, called the SHAFT TUG, by which the shaft is supported, and also kept back from pressing upon the horse's quarters, in which latter office it is sometimes assisted by a leather strap passing round these parts and buckled on each side, either to the shaft or to its tug, and called the BREECHEN.

The part for guiding the horse consists of the BRIDLE and the REINS, the former being made use of, two CHEEK-PIECES, and WINKERS, a THROAT-LASH, a NOSE-BAND, a FACE-STRAP,

a FRONT-PIECE and a HEAD-PIECE. The cheek-pieces are buckled to the BIT, which is generally a strong curb, but sometimes only a DOUBLE-RINGED SNAFFLE, now very commonly used in driving. The REINS are merely long and narrow strips of leather passing from the bit through the hame and pad-terrets to the driver's hand. BEARING-REINS are additional reins attached to bridoon bits, and passing through ear-rings on or near the throat-lash to the hook on the pad. They are, however, now seldom used in single harness. Where the bearing-rein is not used, a long ear-ring is now sometimes suspended from the head of the bridle, through which the driving rein passes, and by which the horse is prevented from getting there in under the point of the shaft, an accident which is very annoying to those who leave their horses standing about with their servants.

PHAETON AND CHARIOT HARNESS are both made on the same principle, differing only in lightness both of leather and ornament, the former being altogether much less heavy than the latter.

Double harness consists, like single harness, of three essential parts; but as there is no shaft to be supported, the pad is much lighter and more simple. The drawing part is similar to that already described, except that the lower eyes of the hames are permanently connected by an oval ring of metal, upon the lower part of which a ring freely travels, on which the pole piece of the carriage is buckled, and by which it is backed. The trace-buckles, also, are opposite the pad, and supported from it by a light strap, called the TRACE-BEARER. The traces themselves either end with an eye, or, with a full-fold upon themselves, with an iron eye, called a ROLLER, and intended to be used upon the ROLLER-BOLT of the splinter-bar. The PAD is very light, and has no back-band; sometimes a long BREECHEN runs to the trace-buckle; but for light harness a mere supporting strap for the traces, called a HIP-STRAP, is all that is used. The BRIDLE is nearly the same as for single harness, except that there are no ornaments on that side which is toward the pole. The REINS have, in addition to the single rein which is attached to the outside of each horse's bit, another called a COUPLING-REIN, which has a buckle toward the driver running upon the driving-rein, so that it may be taken up or let out at pleasure. These coupling-reins are attached to the inside of the bit of the opposite horse, crossing one another after they have been passed through both the pad and hame-terrets, so that the off driving-rein, with its coupling-rein, pulls the off side of the bits of each horse, and the near reins both the near sides.

In double-harness, bearing-reins may or may not be used, but they are generally included in its purchase.

TANDEM HARNESS consists of a single harness for the horse in the shafts, called the "wheeler," with the addition only of double terrets on the pad, for the leader's reins to pass through, and also of a double ear-ring for the same purpose. The leader has harness of the same description as the light phaeton double harness, except that both sides of the bridle are alike, and that the traces are about six feet longer than for ordinary work. They have a swivel-hook, by which they are attached either to the points of the shafts or to the wheeler's trace-buckles, where the shafts have no eyes for the purpose.

FOUR-HORSE HARNESS consists of that for the wheelers, like chariot harness, with double terrets, and one on the head-piece instead of the ear-ring. The leaders have the same as the tandem leader's harness, except that when they are driven "four-in-hand" their traces are shorter, and they end in eyes or hooks, by which they are attached to "serving-bars" that are suspended to a hook at the end of the pole.

WHIPS vary in size and length, from the small light and stout whip of a pony phaeton to the four-in-hand whip with a lash long enough to reach the leader's head.

HARNESS-HORSES.

HARNESS-HORSES are either ponies, gig-horses, Brougham-horses, or coach-horses; being gradually larger and heavier from one end to the other of the line, which begins at the size of the small pony, and extends up to the carriage-horse of 17 hands.

Ponies are met with all over the United States, and are of various breeds; some of which are of wonderful powers of endurance, with good symmetry and action, and with never-failing legs and feet. In general soundness they far excel the larger varieties of the horse, for which there is no accounting, as they are much more neglected and frequently very ill-used. A broken-winded pony, or a roarer, is a very uncommon sight, and even a lame one is by no means an every-day occurrence. There is every reason to believe that the Arab blood has been largely diffused among the ponies of our heaths and forests; and their neat heads and great powers of endurance, together with the small size of their bones, would warrant the assumption.

Among the Welsh ponies there is a strong cross of the Norman horse, and they have many of them the dark mark down the back which is peculiar to that breed, together with the hardiness of constitution inherent in it. Gigsters of all kinds are the refuse of the hunting-stock or of the racing-stud,

those which are too clumsy and slow for those purposes being put to harness. Some are good trotters and yet bad gallopers, and they are, consequently, as well fitted for harness work as they are unsuited for hunting. A great number of gigsters are also under-sized carriage-horses, which last are the produce of Cleveland or Clydesdale mares by well-bred or even thorough-bred horses. Until lately the Cleveland mare was almost the sole origin, on the dam's side, of our best carriage-horses; but latterly the Clydesdale mare has been very extensively used, and with much better success; inasmuch as the produce are much more hardy, and though, perhaps, not quite so level, yet more blood-like, and their legs and feet much more firm and enduring. This is, I believe, the best cross in the world for general harness work, and it will beat the Cleveland breed in every respect.

A noted horseman first recommended the adoption of the cross direct between the Cleveland mare and the thorough-bred horse, and his name and authority have kept up the practice ever since; but it is now at last discovered that as far as legs go they are an unprofitable sort, and that they stand road-work almost worse than any others, except an *unsound* race-horse. I am in great hopes that the Clydesdale mare will turn out a very much better substitute; and that her produce will not only be useful as carriage horses, but as the dams of three quarters and seven-eighths-bred road-horses and hunters. There is a fine roomy frame to go upon, with great ragged hips, flat clean legs, and *good heads*, and with tempers which are fit to be taught anything. The constitution also is good, and in every respect this breed appears to me calculated for the purpose I am now discussing; and from the numerous good specimens I have seen resulting from the first cross, I am induced to hope that the expectations of those who have adopted it will be fully realized.

HARNESSING AND PUTTING-TO.

HARNESSING.—In all cases the first thing to be done, after the horse is dressed, is to put on the collar, which is effected by turning the horse round in his stall, and slipping it over his head with the large end upward. This inversion is required because the front of the head is the widest part, and in this way is adapted to the widest part of the collar, which, even with this arrangement, will in coarsely-bred horses hardly pass over the cheek-bones. Before the collar is put in its place, the hames are put on and buckled; for if this was delayed until after it had been reversed, they would have to be held on while the hame-straps were being drawn together, whereas in this way their own weight keeps them in place. They are now reversed altogether, and the pad

put in its place; before buckling the belly-band of which the crupper is slipped over the tail by doubling up all the hair, and grasping it carefully in the left hand while the right adapts the crupper.

A careful examination should always be made that no hairs are left under it, for if they are they irritate the skin, and often cause a fit of kicking. After the crupper is set right the pad is drawn forward, and its belly-band buckled up pretty tightly; the bridle is now put on, and the curb-chain properly applied, the reins being slipped through the terrets and buckled on both sides, if for single harness, or on the outside only if for double, and the driving-rein folded back and tied in the pad terret.

PUTTING-TO is managed very differently, according to whether the horse is going in shafts or with a pole.

If for shafts, they are tilted up and held there by one person, while the other backs the horse until he is under them, when they are dropped down, and the tugs slipped under or over the ends of the shafts, according to the formation of the tugs, some being hooks, and others merely leather loops. Care must be taken that they do not slip beyond the pins on the shafts. The traces are now attached to the drawing-bar, the breechen or kicking-strap buckled, and the false belly-band buckled up pretty tightly, so as to keep the shafts steady. In four-wheeled carriages it should be left tolerably loose when a breechen is used, to allow of this having free play. The reins are now untwisted from the terret, and the horse is put to.

For double harness, the first thing is to bring the horse round by the side of the pole, and put the pole-piece through the sliding rings of the hames, the groom holding it, or else buckling it at the longest hole while the traces are being put to; as soon as this is done the pole-piece is buckled up to its proper length, each coupling-rein buckled to the opposite horse's bit, the driving-reins untwisted from the terrets, and the two buckled together, and the horses are ready. The leaders of a tandem or four-in-hand are easily attached, and their reins are passed through the rings on the heads of the wheelers, and through the upper half of the pad terret.

UNHARNESSING is exactly the reverse of the above, everything being undone exactly in the same order in which it was done. The chief errors in either are—in double harness, in not attaching the pole-piece at once in putting to, or in unbuckling it altogether too soon, by which the horse is at liberty to get back upon the bars, and often does considerable damage by kicking.

BREAKING TO HARNESS.

FOR DOUBLE-HARNESS WORK, a double break and break horse only are required to effect this object, and a very short time will generally suffice to make a young horse manageable, if driven with a steady companion, and by a careful pair of hands. It is some time before he would be fit for a timid lady, but for country work with those who are not alarmed by an occasional slight freak, after a week or ten days, a horse may safely be used.

The first thing to be done, is to put the harness on, and allow it to remain for an hour or two during the two or three days before the horse is driven. Previously to this he should be thoroughly broken to the saddle, because he will not otherwise know the use of the bit, and without that he will be entirely unmanageable. It was formerly a very common practice to break carriage-horses at plow, by putting them in the middle of a team, and letting them jump and kick till they were tired; but this is a bad plan, and many horses have been spoiled both in limb and temper by it.

Curbs and spavins are very commonly caused by the struggles of a high-couraged horse; and jibbing will often ensue as a consequence in a bad-tempered or sluggish one. The hot blood derived from the Eastern horse leads these colts to plunge and fight against restraint, in a very different way from the dull and phlegmatic cart-horse; and, therefore, the plan is now discarded in favor of the break, where the colt has the power of moving forward, to some extent, in all his plunges, if any, and his blood is not unnecessarily roused by resistance. After he has been made accustomed to the harness, he is put in with the break horse, an animal of great power, size, and steadiness. The break horse should first be put to, and the break brought out into a tolerably open place, where it may start on level ground, or with a very slight ascent. The break is built very strongly, and should have the space between the drawing-bar and the front axletree made up with iron rods, so that if a horse kicks over the bar his legs do not fall, but he draws them back again at once. The bar also should be padded, to prevent him damaging himself in his violence, if he plunges and kicks as some will do. The colt should have a well-fitting collar on, and it should be previously well-oiled, to prevent its fretting the skin; he should also have a common rope halter on, with the end tied loosely to the hame terret, so that the breaksman can lay hold of it, and draw him toward him, without touching his mouth.

When all is ready, and the two horses are put together, with the driver on the box, the break horse is gently touched with the whip, and takes the break off very quietly, the

breaksman walking by the side, and encouraging the colt. Generally speaking, he walks off as quietly as possible, or he may make a bounce or two, but at first he does not seem to recognize his fetters; after a while, however, he will often plunge more or less, and perhaps, if viciously inclined, begin to kick. The break should be steadily driven off, and kept going for an hour, or rather more, but not much longer, as the shoulders are very apt to be galled by a persistence beyond that time. This lesson is repeated every day, until the horse learns to turn and hold back; and it is astonishing how soon a good-tempered horse takes to his new work.

Knee-caps should in all cases be put on, to prevent blemishes in case of any accidents.

For Single Work, every horse should first be put in double harness, and driven at least five or six times. It is not generally at first that vice shows itself, and frequently not until the fourth or fifth lesson, when the driver begins to try what the colt is made of by giving him a short gallop, with a stroke or two of the whip. And until this has been done no one can foretell what the colt will do under provocation, which is sure to come some time or other. When, however, this has been tried, and the colt will turn to either side, stop, and back, as well as throw himself in his breechen in going downhill, he may safely be put into single harness, though at the same time with great care. Some horses are at all times quiet in double harness, and yet will never go in single harness, of which I have had several specimens.

I once had a most inveterate kicker in single harness, which would go as quietly as possible in double; and I have had several bad jibbers which never showed that tendency for some time after breaking. When the horse is first put in single harness it should be in a break expressly made with strong and stout shafts, and high enough to prevent his kicking over; though some horses are able to kick over anything, and no kicking-strap will hold them down. A safety-rein should be added, buckled on to the lower bar of the bit, and passed through a ring on the tug and by the side of the dashboard up to the hand, where it may be held ready for use in case of the horse attempting to bolt. For ordinary use the rein should be put to the cheek, so as to be as little irksome to the horse as possible, and no bearing-rein should on any account be used.

With these precautions, and with the aid of a breaksman and a liberal quantity of patience most horses may be broken in. When there is a great resistance to the breaking to single harness, or a tendency to jib or run away, a stout shaft may be furnished with a projecting bar of iron, and an out-rigger applied to the splinter-bar, by which a second bar

is fixed; and then a break-horse may be attached outside the shafts, and thus the colt is then compelled to go on or stop by the power of the steady and trained horse. In this mode the reins are applied as for pair-horse driving, and it is a very excellent way of breaking unruly horses; indeed, I have known it succeed when all other means had failed in an obstinate kicker; but only, however, for a time, as the vice showed itself nearly as bad as ever after a time.

DRIVING.

DRIVING A SINGLE HORSE is a very simple process, and requires only a good hand and eye.

The reins are held differently from riding, the near rein passing over the forefinger, and the off between it and the middle finger; and then through the hand, descending from the palm by the side of the knees. The thumb keeps the near rein firmly against the forefinger, and I have always found it a good plan to pass both reins out of the hand between the little and ring-fingers, so that without keeping the thumb very firmly fixed, they do not slip through the fingers when the horse makes a mistake. This has saved me many an accident, because when a person is tired with driving many miles, and the attention flags, a horse, in making a mistake, is not checked till it is too late, in consequence of the thumb and forefinger suffering the rein to slip some inches before it is held firmly between them; but when passing through an additional pair of fingers, and making an angle in order to do this, it is astonishing how firmly the reins are held, and yet with how much less fatigue to the hand.

The bearing-rein is now almost totally out of use in single harness, where it is no more needed than for riding, because the driver has even more command of the mouth than if he were in the saddle. There is no doubt that a bearing-rein is better than a careless driver; but with ordinary care the horse is saved by a slight check, which does not keep him up, *but makes him keep himself up*. This he is partly prevented from doing from the confinement of the head, caused by the bearing-rein, and, therefore, although it is useful in driving the horse to hold the head up, it is injurious to an equal extent by confining him from that quick exertion of his powers which might save him from a fall. It is true that many old horses which have been used to lean upon the bearing-rein cannot be safely driven without; but in most of those which have never been accustomed to its use, it may safely be dispensed with. I have had some few which never could be trusted without a bearing-rein, even though broken-in carefully for me; but this was from defective action, and from that straight-necked form which is almost sure to lead to a heavy hanging upon the bit.

It is astonishing how seldom one sees a London cab-horse down now as compared with former years, when this rein was in general use, and yet these horses are quite as hard worked as ever, and often with scarcely one good leg out of the four. But with their heads at liberty, and only a double-ringed snaffle, they rarely make a mistake; or, if they do, they are almost sure to save themselves from it. Too tight a rein is quite as bad as holding it too loose, and a gagged horse will be so confined in his action as to be always making mistakes. The head should have a tolerable degree of liberty, the mouth just feeling the hand, so as in a good mouth to lead to that playing with the bit which is the perfection of breaking and driving. By this I mean that tendency to keep within the bit and to avoid its pressure which a fine mouth will always show; and yet when there is high courage, a constant desire to press forward as soon as the hand is at all relaxed; up a steep hill, the head should have entire liberty, while down-hill the hand should be shortened upon the rein, and, with his knees straight, and the feet well out, the driver should be prepared for a mistake, and ready to assist if it is made, not by violently dragging at the head, but by checking sufficiently without gagging the horse.

The mere avoiding of other vehicles in meeting or passing is too simple an affair to require minute description.

In Driving a Pair, the great art consists in putting them together, so as to draw equally, and to step together.

To do this well, the horses must match in action and temper, two slugs being much better than a free-tempered horse and a slug; because in this case the whip applied to the one only makes the other more free, and as a consequence it is impossible to make them draw equally. In some cases where two horses are exactly equally matched, the coupling-reins must both be of equal length; but this is seldom the case; and when they do not do an equal amount of work, the coupling rein of the free one must be taken up, and that of the idle horse let out. In watching the working of the two horses the pole-pieces should always be the guide; and if both are slack, with the end of the pole steady, and neither horse shouldering it, the driver may rest contented that his horses are each doing their share; if, however, the pole is shouldered by either, that horse is a rogue, and is making the other do more than his share, and keeping the pole straight by the pressure of his shoulder, instead of pulling at the traces. On the other hand, if either horse is pulling away from the pole, and straining at the pole-piece, he is doing more than his share, and his coupling-rein must be taken in accordingly. Sometimes both shoulder the pole, or spread from it, which are equally unsightly habits, and may generally be cured by an al-

teration of the coupling-reins of both horses, letting them out for shouldering, and taking them in for its opposite bad habit. The reins are held in the same way for double-harness as for single.

Bearing-reins are more necessary here than in single-harness, because there is not the same immediate command of a horse; but in tolerably active and safe goers there is little necessity for them; it is only when horses stand about much that they are wanted, and then only for display; but for this they certainly are of service, as the horse stands in a very proud and handsome attitude when "borne up," and the pair match much better when they are suffered to stand at ease.

In driving a pair, it should always be remembered that there are two methods of driving round a curve, one by pulling the inside rein, and the other by hitting the outside horse, and these two should generally be combined, graduating the use of the whip by the thinness of the skin of the horse. In all cases the whip is required in double-harness, if not to drive horses when thoroughly put together, yet to make them pull equally; and there are very few pairs which do not occasionally want a little reminding of their duties. A constant change from one side to the other is a prevention of those tricks and bad habits which horses get into if they are always kept to one side only. The coachman should, therefore, change them every now and then, and back again, so as to make what was a puller from the pole rather bear toward it than otherwise when put on the other side.

VARIOUS DEVICES are used by old hands for curing vices in harness horses.

The kicking-strap in single harness is merely a strap over the croup, buckled down to the shafts; and in double harness a somewhat similar plan is adopted, but of little use as compared with that used in single harness. Besides these there are side-reins, martingales, and a variety of other schemes invented; but every one who is likely to want them has his own peculiar ideas on the subject, and it will be unnecessary for me to go into a description of them.

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MISCELLANEOUS RECEIPTS.

FOR COLIC.

No. 1. Take of laudanum, 1 ounce, spirits of turpentine, 1 1-2 ounces, mix, and give to one dose in three times the amount of warm water.

No. 2. Sulphuric ether, 1 1-2 ounces, laudanum, 1 ounce, essence peppermint, 2 ounces, water, 16 ounces, mix, and shake well before giving.

FOR HEAVES.

No. 1. One teaspoonful of lobelia, given in the feed once a day, for a week, and then once or twice a week will stop them for a time.

No. 2. Balsam copaiba, 1 oz., spts. of turpentine, 2 oz., balsam fir, 1 oz., cider vinegar, 16 oz., mix, and give a tablespoonful once a day.

No. 3. Saltpeter, 1 ounce, indigo, 1-2 ounce, rain water, four pints, mix, and give a pint twice a day.

No. 4. Licorice, elecampane, wild turnip, fenugreek, skunk-cabbage, lobelia, cayenne, and ginger equal parts of each, mix, and give a tablespoonful once or twice a day; if the horse refuses to eat it in feed, make into a ball and give.

CONTRACTED HOOF OR SORE FEET.

No. 1. Take equal parts of soft fat, yellow wax, linseed oil, Venice turpentine, and Norway tar; first melt the wax, then add the others, mixing thoroughly. Apply to the edge of the hair once a day.

No. 2. Benzine, 1 ounce, salts of niter, 1 ounce, alcohol, 3 ounces, aqua ammonia, 2 ounces, Venice turpentine, 8 ounces. Mix, apply to the edge of the hair, and all over the hoof once a day, for ten days, then twice a week for a short time.

No. 3. Rosin, 4 ounces, lard, 8 ounces; heat them over a slow fire, then take off and add, po. verdigris, 1 ounce, stir well to prevent it running over; when partly cool, add spirits turpentine, 2 ounces. Apply to the hoof about one inch down from the hair.

HORSE LINIMENTS.

No. 1. Oil spike, oil origanum, oil hemlock, oil wormwood, aqua ammonia, camphor gum, of each 2 ounces, olive oil, 4 ounces, alcohol, one quart. Mix. This is an excellent liniment for man or beast.

No. 2. Oil origanum, oil amber, sweet oil, of each one ounce, oil spike, aqua ammonia, and oil of turpentine, of each, two ounces. Mix.

No. 3. Linseed oil, 8 ounces, turpentine, 8 ounces, oil origanum, 4 ounces. Mix well. This is excellent for sprains and bruises, and as a general liniment is good.

No. 4. Oil spike, 1 ounce, oil origanum, 2 ounces, alcohol, 16 ounces. Good for lameness from almost any cause.

No. 5. Take equal parts, alcohol, chloroform, aqua ammonia, Jamaica rum and water. Mix.

FOR SCRATCHES AND GREASE HEEL.

No. 1. Balsam fir, 4 ounces, lard, 4 ounces. Stir with a gentle heat until thoroughly mixed. Wash the sores well with castile soap, and apply.

No. 2. Sugar of lead, 2 oz., borax, 1 oz., sweet oil, 6 oz., mix, and apply twice daily after washing with castile soap, and drying.

No. 3. Tincture of myrrh, 2 oz., glycerine, 4 oz., tincture of arnica, 2 oz. Mix thoroughly and apply two or three times a day, after cleansing as above with castile soap.

No. 4. Take 1-2 oz., of powdered verdigris, and one pint rum, or proof spirits. Mix, and apply once or twice a day. This works nicely for grease heel or mud fever.

No 5. Take of oxide of zinc, 1 drachm, lard, 1 ounce, powdered gum benzoin, ten grains, camphorated spirits, one drachm. Mix thoroughly and rub on twice a week. Do not wash after the first application.

CUTS, WOUNDS AND SORES.

No. 1. Take of lard, 4 ounces, beeswax, 4 ounces, rosin, 2 ounces, carbolic acid, 1-4 ounces. Mix the three first and melt, then add the carbolic acid, stirring until cool. This is excellent for man as well as beast.

No. 2. Tincture aloes, 1 ounce, tincture myrrh, 1-2 ounce, tincture opium, 1-2 ounce, water, four ounces, mix, and apply night and morning.

No. 3. Tincture opium, 2 ounces, tannin, 1-4 ounce. Mix.

No. 4. Carbolic acid, 1 ounce, soft water, 1 quart. Mix.

SWEENEY.

No. 1. Spanish flies, camphor gum, and cayenne, of each 1 oz., alcohol 10 ozs., spts. turpentine, 6 ozs., oil origanum, 2 ozs. Mix.

No. 2. Alcohol, 16 ozs., spirits turpentine, 10 ozs., muriate of ammonia, 1 oz. Mix.

No. 3. Alcohol, water, spirits of turpentine and soft soap, of each 1 pint, salt, 6 ozs. Mix.

POLL EVIL AND FISTULA.

No. 1. Copperas, 1 drachm, blue vitriol, 2 drachms, common salt 2 drachms, white vitriol, 1 drachm; mix and powder fine. Fill a goose-quill with the powder, and push it to the bottom of the pipe, having a stick in the top of the quill, so that you can push the powder out of the quill, leaving it at the bottom of the pipe; repeat again in about four days, and in two or three days from that time you can take hold of the pipe and remove it without trouble.

No. 2. Tincture of opium, 1 drachm, potash, 2 drachms, water, 1 ounce; mix, and when dissolved inject into the pipes

with a small syringe, having cleansed the sore with soap-suds; repeat every two days until the pipes are completely destroyed.

No. 3. Take a small piece of lunar caustic, place in the pipe, after being cleansed with soap-suds, then fill the hole with sweet oil.

BOTS.

Take new milk, 2 quarts, syrup, 1 quart, mix and give the whole, and in fifteen or twenty minutes after give 2 quarts of warm, strong sage tea; half an hour after the tea, give 1 quart of linseed oil, or if the oil cannot be had give lard instead.

OINTMENT FOR HORSES.

Bees-wax, 2 ounces, rosin, 3 ounces, lard, 4 ounces, carbolic acid, 1 drachm, honey, 1-2 ounce, melt all together and bring slowly to a boil, then remove from the fire, and add slowly 1 gill of spirits of turpentine, stirring all the time until cool; used with good success for galls, cracked heels, flesh wounds or bruises.

CONDITION POWDERS.

No. 1. Gentian, fenugreek, sulphur, saltpeter, cream of tartar, of each 2 ounces, rosin, black antimony, of each 1 oz., ginger, licorice, 3 ozs. each, cayenne, 1 oz., pulverized and mixed thoroughly; dose, 1 tablespoonful, once or twice a day, mixed with the feed; used with good success for coughs, colds, distemper, hidebound, and nearly all diseases for which Condition Powders are given.

No. 2. Fenugreek, 4 ozs., ginger, 6 ozs., anise, pulverized, 4 ozs., gentian, 2 ozs., black antimony, 2 ozs., hard wood ashes, 4 ozs.; mix all together; excellent to give a horse an appetite.

No. 3. Licorice, 4 ozs., fenugreek, 4 ozs., elecampane, 4 ozs., blood root, 1 oz., tartar emetic 1-2 oz., ginger and cayenne, each 1 oz.; mix and give a tablespoonful two or three times a day in the feed. One of the best condition powders for any cough, cold, distemper or epizootic; also excellent for heaves. For heaves, 1 oz. of lobelia and camphor may be added.

LINIMENTS FOR HORSES.

No. 1. Olive oil, 2 ozs., aqua ammonia, 1 oz.; mix and add 2 ozs. oil origanum, 2 ozs. spirits of turpentine, 1-2 oz. oil of wormwood, 1 pint strongest alcohol; mix. This liniment is excellent for any lameness, also good for spavins, ringbones, curbs, etc., if used when they make the first appearance.

No. 2. Oil of spike, 1 oz., oil of origanum, 4 ozs., aqua ammonia, 2 ozs., tincture of cayenne pepper, 4 ozs., beef's gall, one gill, camphor gum, 1 oz., alcohol, 1 pint; mix: used for the same purposes as No. 1.

No. 3. Best vinegar, 1 qt., saltpeter, pulverized, 4 ozs., wormwood, 4 ozs.; mix, and steep in a dish well covered; strain and press the herbs: valuable for bruises, swellings and sprains.

SADDLE AND HARNESS GALLS, BRUISES, ETC.

No. 1. Tincture of opium, 2 ozs., tannin, 2 drachms; mix and apply twice a day.

No. 2. Take white-lead and linseed oil, mix as for paint, and apply two or three times a day; this is good for scratches, or any wounds on a horse.

EYE-WATER FOR HORSES.

Sugar of lead, 1 drachm, tincture of opium, 2 drachms, soft water, 1 pint; mix, and wash the eye two or three times a day.

FOUNDER.

No. 1. Vinegar, 3 pints, cayenne pepper, 1-2 drachm, tincture of aconite root, 15 drops, mix, and boil down to 1 quart; when cool, give as a drench; blanket the horse well; after the horse has perspired for an hour or more, give one quart of linseed oil: this treatment will be found good for horses foundered by eating too much grain.

No 2. Some recommend for horses foundered on grain, to bleed about 1 gallon, then to drench the horse with linseed oil, 1 quart; after this, rub the fore legs well, and for a long time with very warm water, with a little tincture of opium mixed with it. As the horse will not recover from the loss of blood for a long time, it is usually better to adopt the treatment given in No. 1.

ANODYNE DRENCHES.

No. 1. Tincture of opium, 1 ounce, starch gruel, 1 quart; mix.

No. 2. Sweet spirits of niter, 1 oz., tincture of opium, 1 oz., essence of peppermint, 1-4 oz., water, 1 pint; mix.

No. 3. Tincture of opium, 1 oz., spirits of camphor, 1 2 ounce, anise, 1-2 ounce, sulphuric ether, 1 oz., water, 1 pint; mix.

DIABETES.

Sugar of lead, 10 grains, alum 30 grains, catechu, 1 dr., tincture of opium, 1-2 ounce, water, 1 pint; mix.

FARCY AND GLANDERS.

No. 1. Iodide of potassium, 1 1-4 drachms, copperas 1-2

drachm, ginger, 1 drachm, gentian, 2 drachms, powdered gum-arabic and syrup to form a ball.

No. 2. Calomel, 1-2 drachm, turpentine, 1-2 ounce, blue vitriol, 1 drachm, gum-arabic and syrup to form a ball.

No. 3. 1-2 ounce sulphate of soda, 5 grains of Spanish flies, powdered; mix; and give at night in cut feed for several weeks; give at the same time every morning and noon, 3 drachms powdered gentian, 2 drachms powdered blue vitriol; give the medicines for a long time; feed well. This is the best treatment that can be given for this disease.

FEVER BALLS.

No. 1. Saltpeter, 2 1-2 drachms, tartar emetic, 1-2 drachm, flaxseed meal, 1 oz., camphor, 1-2 drachm, ginger, 2 drachms; mix, and form into a ball; repeat three or four times a day if necessary.

No. 2. Tincture of aconite, ten drops, tartar emetic, 1-4 drachm, saltpeter, 1 drachm, ginger, 2 drachms, linseed meal, 1 ounce; mix, and form into a ball; repeat three or four times a day if necessary.

DIURETIC AND TONIC BALL.

Copperas, 1 1-2 drachm, ginger, 1 drachm, gentian, 1 drachm, saltpeter, 3 drachms, rosin, 1-2 oz., flaxseed meal, 1 oz.; mix, and form into a ball.

DIURETIC BALLS.

No. 1. Saltpeter, 3 drachms, rosin, 4 drachms, castile soap, 2 drachms, fenugreek, 3 drachms, flaxseed meal, 1 ounce; mix, and form into a ball.

No. 2. Oil of juniper, 1-2 drachm, rosin and saltpeter each, 2 drachms, camphor, 1-2 drachm, castile soap, 1 oz., flaxseed meal, 1 oz.; mix, and form into a ball.

CORDIAL BALLS.

No. 1. Anise, powdered, 1-2 ounce, ginger, 1 drachm, gentian, 1 drachm, fenugreek, 2 drachms; mix.

No. 2. Caraway and ginger, each, 2 drachms, anise, gentian and fenugreek, each, 1 oz; mix.

No. 3. Camphor, 1 drachm, anise, 3 drachms, tincture of opium, 1 oz., powdered extract of licorice, 3 drachms, flaxseed meal, 1 ounce; mix.

ASTRINGENT AND CORDIAL.

No. 1. Opium, 12 grains, camphor, 1-2 drachm, catechu, 1 dr.; mix.

No. 2. Opium, 10 grains, camphor, 1 drachm, ginger, 2 drs., castile soap, 2 drachms, anise, 3 drs., licorice, 2 drachms; mix.

ALTERATIVE ANE LAXATIVE BALLS.

No. 1. Linseed meal, 1 ounce, aloes, 1-2 ounce, castile soap, 1-2 ounce; mix.

No. 2. Ginger, 1 drachm, bar soap, 3 drachms, Barbadoes aloes pulverized, 6 drachms, flaxseed meal, 1 ounce.

TONIC BALL.

Ginger, 2 drachms, gentian, 1 drachm, Peruvian bark, 1-2 ounce, fenugreek, 1-4 oz.; mix and form a ball.

DIURETICS.

Take of balsam copaiba, 2 ozs., sweet spirits of niter, 3 ounces, spirits of turpentine, 2 ozs., oil of juniper, 2 ozs., tincture of camphor, 2 ozs.; mix; shake the bottle before pouring the medicine; dose for an adult horse, two tablespoonfuls in a pint of milk, repeated every four to six hours if necessary. This is a reliable preparation for kidney difficulties.

COUGH MIXTURES.

No. 1. Oil of tar, given as directed for the treatment of heaves, is one of the best remedies for nearly all coughs.

No. 2. Take of alcohol, 1-2 pint, balsam of fir, 2 ounces; mix well, and add all the tar it will cut. Shake well before using. Dose from one to two teaspoonfuls two or three times a day.

FARCY.

Nitrate of potash, 4 ozs., black antimony, 2 ozs., sulphite of soda, 1 oz., elecampane, 2 ozs.; mix; dose, one tablespoonful once or twice a day.

NASAL GLEET.

Copperas, 2 ozs., pulverized gentian, 3 ozs., elecampane, 1 oz., linseed meal, 3 ozs.; mix, and give from 1-2 to 1 tablespoonful twice a day.

No. 2. Aloes, 6 ozs., pulverized nux vomica, 3 drachms, flaxseed meal, 4 ozs., make into eight powders and give one or two each day.

CRACKED HEELS.

Tar, 8 ozs., bees-wax, 1 oz., rosin, 1 oz., alum, 1 oz., tallow, 1 oz., sulphate of iron, 1 oz., carbolic acid, 1 drachm; mix, and boil over a slow fire. Skim off the filth, and add 2 ozs. of the scrapings of sweet elder.

THRUSH.

No. 1. Wash the feet well with castile soap and water, and sprinkle a small quantity of pulverized blue vitriol in the cleft, and then fill up all the cavities with cotton and press it in so as to keep out all dirt, and repeat as often as necessary until the cure is complete.

No. 2. Blue vitriol and copperas, of each one ounce, burnt alum, 2 ozs., white vitriol, 1-4 oz.; mix.

WATER FARCY.

No. 1. Saltpeter, 2 ozs., copperas, 2 ozs., ginger, 1 oz., fenugreek, 2 ozs., anise, 1-2 oz., gentian, 1 oz.; mix and divide into eight powders; give two or three each day.

No. 2. Gentian, 1 oz., ginger 1-2 oz., anise, 1 oz., elecampane, 2 ozs., blue vitriol, 1 oz., flaxseed meal, 2 ozs., saltpeter, 2 ozs.; mix, and divide into eight powders. Moderate daily exercise and rubbing the limbs are useful.

HEALING PREPARATIONS.

No. 1. Carbolic acid, 1 oz., soft water, 2 pts.; mix.

No. 2. White vitriol, 1 oz., soft water, 2 pts.; mix.

No. 3. Pulverized camphor, 1 drachm, prepared chalk, 6 drachms, burnt alum, 4 drachms; mix. Sprinkle over the sore.

No. 4. Tincture of opium, 1 oz., tannin, 1 drachm; mix and shake well before using. Excellent for galls of collar, saddle, or in fact for any purpose requiring a healing astringent.

FOR GALLED BACK OR SHOULDERS.

Tincture of arnica, 1 oz., vinegar, 6 ozs., brandy, 4 ozs., sal ammoniac, 2 ozs., soft water, 1 pt.; mix, and bathe with it often.

FOR UNHEALTHY ULCERS.

Nitric acid, 1 oz., blue vitriol, 3 ozs., soft water, fifteen ozs.

FOR FRESH WOUNDS.

Copperas, 2 drachms, white vitriol, 3 drachms, gunpowder, 2 drachms, boiling soft water, 2 qrts.; mix; when cool it is ready for use.

HEALING MIXTURE.

Cosmoline, 5 ozs., carbolic acid, 1 drachm; mix. This is one of the very best of mixtures for any sore, especially such cases as are inclined not to heal readily.

TO CURE MANGE.

Oil tar, 1 oz., lac sulphur, 1 1-2 ozs., whale oil, 2 ozs.; mix. Rub a little on the skin wherever the disease appears, and continue daily for a week, and then wash off with castile soap and warm water.

HEALING MIXTURE FOR CUTS.

Balsam copaiba, 2 ozs., tincture of myrrh, 3 ozs.; mix. This is a good healing mixture.

SORE LIPS.

The lips become sore frequently at the angles of the mouth

from bruising with the bit. They can be cured by applying the following mixture:

Tincture of myrrh, 2 ozs., tincture of aloes, 1 oz., and tincture of opium, 1-2 oz.; mix and apply three or four times a day.

FOR SORE MOUTH AND LIPS.

Borax, 1 oz., tannin, 1-4 oz., glycerine, 8 ozs.; mix and, apply two or three times a day with a swab.

FOR SPAVINS, ETC.

Hog's lard and spirits of turpentine; mix, and place in the hot sunshine for four or five days. Apply four or five times a week.

EYE-WATER.

White vitriol and saltpeter, of each one scruple, pure soft water, 8 ozs.; mix. This should be applied to the inflamed lids 3 or 4 times a day, and if the inflammation does not lessen in 1 or 2 days, it may be injected directly into the eye.

The writer has used this for his own eyes, reduced half with water and dropped directly into the eye, which would cause the eye to smart considerably for about five minutes, when he would bathe the eye with cold water for a few minutes, and by repeating this three or four times a day it has given the very best of satisfaction.

It does nicely many times to just close the eye and bathe the outside freely.

FOR POLL EVIL, FISTULA, OR ANY INDOLENT ULCER.

Fill the sore to the bottom with ashes from burnt corncobs; repeat two or three times, if necessary, until a cure is effected.

FOR COLIC.

Take of gum myrrh, 1 oz., gum camphor, 1 oz., powdered gum guaiac, 1 oz., cayenne, 1 oz., sassafras bark, powdered, 1 oz., spirits turpentine, 1 oz., oil origanum, 1-4 oz., oil hemlock, 1-2 oz., pulverized opium, 1-2 oz., strongest alcohol, 2 qrts.; mix all together and shake often for eight or ten days and filter or strain through flannel. Dose from 1 to 3 tablespoonfuls, according to the severity of the case, given in a pint of milk.

We never have known the above remedy to fail of giving relief when given for colic in horses. In many cases where it has been used it has given immediate relief when various other remedies had failed of giving any relief.

It makes one of the very best of Pain Killers for family use, and we advise all to keep it on hand.

FOR FLESH WOUNDS.

To prevent inflammation or tendency to sloughing or mortification. Take 1 pound saltpeter, 2 gallons water, 3 pints proof spirits; mix, and inject into the wound with a syringe three times a day until it heals. In treating deep wounds, or of a dangerous character, especially if the animal is inclined to be fat, give a dose of physic, feed bran, carrots, etc. No grain should be fed, grass is more desirable than hay. If grass is fed freely, physic is not necessary.

FOR REMOVING ENLARGEMENTS, ETC.

Oil spike, 1 oz., camphor, 1 oz., oil origanum, 2 ozs., oil amber, 1 oz., spirits turpentine, 2 ozs. Rub on the mixture thoroughly two or three times a week.

FOR BRUISES, CUTS, ETC., ON HORSE OR MAN.

Tincture arnica, 1 oz., sassafras oil, 1-2 oz., laudanum, 1 oz.; mix. Shake well before using. Bandage lightly, and keep wet with the mixture.

QUARTER CRACK.

The best way to cure quarter crack is to open the heel on that side between bar and frog, cutting down pretty well (not sufficient to cause bleeding), until the quarter will give freely; then put on a shoe that will expand the heel. It is only necessary in this case that the inner heel should be opened or spread, as the hoof is simply too small for the foot; if this is properly done the point is directly reached. Some recommend, in addition to this, burning with a hot iron a crease across at the upper edge of hoof. If this is done properly the hoof will not split any more. The hoof may now be more rapidly grown if desired. Opening the foot and the shoe is the point of success.

QUITTOR.

Corrosive sublimate, 1-4 oz., muriatic acid 20 drops, soft water 2 ozs.; mix the two last and shake well, then add the first.

Inject a little with a glass syringe one or two times, being careful to inject to the bottom. Warm poultices generally work well, used for several days.

BOTS.

All horses which run out to grass are quite sure to have bots in their stomachs, and as there is so much misconception about bots and their destructiveness to horses, we copy the result of a series of experiments with bots three-fourths grown.

When immersed in rum, they live 25 hours; decoction of tobacco, 11 hours; strong oil of vitriol, 2 hours 18 minutes;

essential oil of mint, 2 hours 5 minutes. Were immersed without apparent injury, in spirits of camphor, 10 hours; fish oil, 49 hours; tincture aloes, 10 hours; in brine, 10 hours; solution indigo, 10 hours. A number of small bots, with one that was full grown, were immersed in a strong solution of corrosive sublimate, one of the most powerful poisons; the small ones died in one hour, but the full-grown one was taken out of the solution, six hours after its immersion, apparently unhurt.

It will be seen by the above experiments that no medicine can be given which will effect the bot that will not destroy the coating of the stomach, and injure or kill the horse. No veterinary surgeon can tell the symptoms of bots from colic. In fact, there is but little doubt that ninety-nine out of every one hundred cases of belly-ache, is no more nor less than colic and not bots, and should be treated as we have already directed in the treatment of colic.

TO GROW HAIR.

Mix sweet oil, 1 pint, sulphur, 3 ozs. Shake well, and rub well into the dock twice a week.

FOR WORMS.

Calomel, 1 drachm, tartar emetic, 1-2 drachm, linseed meal, 1 oz., fenugreek, 1 oz. Mix and give in feed at night, and repeat the dose for two or three times, and follow with 1 1 2 pints of linseed oil about 6 hours after the last powder has been given.

GREASE HEEL.

Chloride of zinc, 1 1-2 drachm, water, 10 ozs., glycerine, 8 ozs.; mix. If there is much discharge, apply a poultice for several hours, followed by application of the above after cleansing well with soft water and castile soap. The following powders should be given at the same time in the feed, every night for a week or two: Bicarbonate of soda, 1 oz., arsenic, 1 drachm, iodide of iron, 1-2 oz., fenugreek, 2 ozs., ginger, 2 ozs., elecampane, 1 oz.; mix thoroughly, and divide into 12 powders.

FOR DISTEMPER.

Hops, 2 ounces, carbolic acid 30 drops, boiling water 2 gallons. Mix the hops and carbolic acid with the boiling water and compel the animal to inhale the steam for 15 or 20 minutes at a time and repeat three times a day. Apply a strong mustard paste to the throat, and place a warm poultice over the paste. Feed warm mashes and boiled vegetables; keep stable comfortably warm and the air pure. Give the following powders once a day. Take powdered Peruvian bark, 2 ounces, powdered gentian, 1 ounce, powdered copperas, 1 ounce; mix and divide into 8 powders.

THRUSH.

Take white vitriol, 2 ounces, soft water, 8 ounces. Mix, and apply to the diseased surface, after the ragged parts have been cut away and thoroughly cleansed. Pack the cavities with cotton batting, so as to keep out all dirt.

FOR RINGWORM.

Apply mercurial ointment 3 or 4 times a week.

FOR BRITTLE AND CONTRACTED HOOFS.

Take of castor oil, Barbadoes tar and soft soap, equal parts of each, melt all together, and stir while cooling, and apply a little to the hcof 3 or 4 times a week.

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MEDICINES USED FOR THE HORSE.

We will give something of a history of the more important drugs used for the treatment of the diseases of the horse, with their effects and uses.

Acids. These nearly all have a sour taste, and are derived from the vegetable, mineral and animal kingdoms. The number of acids used in medicines is small; among the most important of these are acetic acid, muriatic acid, nitric acid, sulphuric acid, tannic acid, gallic acid, carbolic acid, arsenious acid, phosphoric acid, tartaric acid.

Acetic Acid. When diluted with seven parts of water it is about the strength of ordinary vinegar. It is produced from the purification of pyroligneous acid.

Use. It is used by some with good results for sprains, and bruises, and for the destruction of the poison of insects, by adding to six ounces of the acid 1-4 ounce tincture of opium and two ounces of camphor.

Muriatic Acid. This acid is obtained by the action of sulphuric acid on common salt. When pure it is a transparent colorless liquid; but the commercial acid has a yellowish color.

Muriatic acid is a good tonic in debilitating diseases of the horse, and is refrigerant and antiseptic.

Dose. Half to one fluid drachm may be given largely diluted with cold water, and repeated two to four times a day.

Externally, it may be used for sores in the feet, by pouring a few drops in the sores or nail-holes. Eight or ten drops may be advantageously used for poll-evil or quittor by being poured directly into the fistulous opening.

It may be used for various affections of the skin by diluting with glycerine, and washing off in a short time if used strong.

CARBOLIC ACID. This important medicine is obtained from coal-tar oil. Its smell resembles that of creosote.

Uses. It is used for various purposes, such as a disinfectant in stables, where animals have distempers, fevers, etc., by washing the stalls, floors and ceilings with water which contains a small quantity of the acid; also used with gratifying results for unhealthy wounds and sores, by applying a solution of the following strength: Carbolic acid, 1 oz.; fresh soft water, 6 pints. This prevents putrefaction, and will cause the wound to be more healthy and heal sooner. Carbolic acid is also used for destroying woodticks, lice, and all kinds of parasites, and is quite effective in preventing the bot-fly from depositing her eggs when those parts which are commonly chosen by the bot-fly are washed with a solution double the strength given above.

NITRIC ACID. (Called also Aqua Fortis.) This is also a valuable tonic when properly given. It is extremely sour and corrosive, and should be guarded by the same caution as in giving the sulphuric acid.

Dose. It may be given in doses of 5 to 25 drops, largely diluted with water.

SULPHURIC ACID (called also oil of Vitriol). This acid is obtained by burning sulphur, mixed with one-eighth of its weight of niter over a stratum of water contained in a chamber lined with sheet-lead.

Uses. Many consider this acid to be preferable to any other of the acids for internal use, in debility of digestive organs, general weakness, and as a refrigerant.

Externally, it is used similarly to muriatic acid. When it is desired to use it as a caustic it should be mixed with dry powdered white vitriol sufficient to make it of a pasty consistence, so it can be confined to the location which it is desired to cauterize.

This acid, as well as nitric or muriatic acid is a powerful irritating poison when given into the stomach undiluted; and persons should bear in mind that when these acids are given that they should be largely diluted with water and thoroughly mixed before administering.

Dose of Sulphuric acid is about 10 to 40 drops, largely diluted with water.

TANNIC ACID. (Called also Tannin.) This is produced from nut-galls, oak-bark, etc. It is uncrystallizable, white or slightly yellowish, with a strong astringent taste, inodor-

ous, soluble in water, but not very soluble in alcohol or ether, and insoluble in most oils.

Tannic acid precipitates solutions of starch, albumen and gluten, and forms with gelatine an insoluble compound, which is the basis of leather.

Uses. It is valuable, mixed with water, as a wash for running sores and ulcers, and is also excellent for diarrhœa, and may be given for any disease where this class of medicines is indicated. It will, in many cases of bleeding sores, stop the bleeding if applied locally. It is sometimes used as an eye-wash with excellent success, by applying a solution of the following strength: Tannic acid, 1-4 ounce; cold water, 1 quart. As it is harmless and safe to use, we would recommend it as an eye-wash.

Dose. For diarrhœa the dose should be from 1-2 to 1 drachm.

ACONITE. (Wolf's-bane—Monk's-hood.) An active poison, which grows abundantly in the forests of Germany, France and Switzerland. It is also cultivated in the gardens of Europe, and has been introduced into this country as an ornamental flower. All parts are poison. The leaves and roots are used. A tincture made from the root is much more active than from the leaves.

Tincture of Aconite Root.—This is one of the most powerful and successful sedatives which is in use. It is one of the best medicines we have for the successful treatment of several of the diseases of the horse, when properly used, and has, to a certain extent, done away with bleeding and physicking, the former of which has been, in the past, so indiscriminately and dangerously used. It is not only sedative, but it is an anodyne, diaphoretic and antiphlogistic. It controls fever, reduces inflammation, and allays pain. In fact, we have no drug which will so well control the circulation and action of the heart as aconite.

Medical Uses—The effects of remedial doses are felt in 20 or 30 minutes, and are at their height in an hour or two, and continue with little abatement from 3 to 5 hours. We have no single drug which is used with such gratifying results in many cases, such as lung fever, or, in fact, in flammation of any part of the body, colic from eating green food, and founder.

Caution. In overdoses this valuable drug is an active poison, therefore, we would caution all who use it about giving too large quantities, as prostration and perhaps death would be the result. Never give more than 5 or 6 doses, if 25 drops are given at each dose, nor more than 7 or 8, if 20 drops are given at each dose. The dose may vary

from 10 to 45 drops, but for most purposes should be about 25 drops.

ALOES. Are of several varieties: Cape, Barbadoes and Socotrine, and is the condensed juice of the leaves of a plant. Given by some as a purgative or cathartic for horses; others consider it bad practice to use it much. *Dose*, should, for ordinary purposes, be from 1-2 to 1 ounce. It is generally best to combine with it fenugreek, ginger or canella.

ANTIMONY, exists in its natural state in France and Germany. The preparations of antimony which are used for the horse most, are 1st, *sulphuret of antimony*, also commonly called *black antimony*. This is by many considered a remarkable remedy for the horse, for many purposes, but especially to make the horse *shine*, and to have the appearance of being quite fat. 2d. *Tartrate of antimony and Potassa*, commonly called *tartar emetic*, has been in great repute in the treatment of diseases of the chest; but is now considered of but little value in these diseases.

ANISE SEED. Are obtained from the anise plant, which is a native of Egypt, but has been introduced into the south of Europe, and is cultivated in various parts of that country, and is cultivated occasionally in the gardens of this country.

Uses. It is a grateful aromatic carminative, and is supposed to have the property of increasing the secretion of milk. It is used for flatulent colic, indigestion, loss of appetite, etc. It is an excellent remedy when combined with other medicines for various kinds of condition powders.

ose. From 1-2 to two ounces, and may be repeated three times a day.

AQUA AMMONIA. (Called also Hartshorn.) This medicine is very valuable for both internal and external use. It is a diffusible stimulant, antispasmodic and antacid. It is used *externally* with olive oil, and in various mixtures as a counter-irritant. Used as an antidote for bites of poisonous serpents. Given with good results for flatulent colic in *doses* of two to three drachms given with milk as directed below for carbonate of ammonia.

CARBONATE OF AMMONIA. This is a very valuable medicine for debility and prostration from lung fever, bronchitis, influenza or any disease causing great weakness. Its effects are similar to those of aqua ammonia given above.

Dose. One to three drachms, which may be repeated three times a day, and should be given in milk or cold gruel, so as to protect the mucous membranes of the throat and stomach.

ARSENIC. This is an active poison in large doses, but when given in proper doses is an excellent tonic, improving the general condition of the horse. It should be given in a

large bulk of cut feed, so as to protect the stomach. From 2 to 5 grains may be given in the 24 hours, and should be continued for about two weeks, when the medicine should be stopped for one or two weeks, and then it may be given again as before. Some consider it asure cure for heaves.

ASSAFŒTIDA. A gum-resin obtained from a plant of Persia by making incisions into the living root, and the juice which exudes is collected and dried in the sun. It has a peculiar odor, similar to that of onions.

Uses. It is antispasmodic, expectorant, and a moderate stimulant and laxative. It is given as a vermifuge and for loss of appetite, also used for heaves in connection with camphor. (See treatment of heaves.)

Dose. One to three drachms, and if the stimulant effect is wanted give from one to two ounces of the tincture.

BLUE VITRIOL. This is an excellent medicine when given internally, as a tonic to build up the system. Given for glanders, farcy, and various other diseases requiring tonic and alterative medicine, and should be combined with ginger, fenugreek or gentian. *Externally* blue vitriol is used with good results as a caustic for proud-flesh by touching the parts with a piece of the crystal. It is also excellent for many wounds which have no proud-flesh by applying it in solution, 6 to 12 grains to each ounce of soft water.

Dose. It may be given in doses from 1-2 to 2 drachms, and given twice a day.

CAMPHOR. A peculiar concrete substance derived from a plant in China and Japan. It is recommended for nervous excitement, heaves, and is used in many cough mixtures. It is a favorite household remedy, and used externally to a large extent.

Dose. Camphor may be given in doses varying fron 1-2 to 2 drs. Camphor gum, 1 oz., and sweet oil 8 ozs., mixed, makes a very good external remedy for various purposes.

CANTHARIDES. (Spanish Flies.) This remedy is produced by collecting the beetle commonly called Spanish Flies.

These insects are of a beautiful, shining, golden green color, and usually make their appearance upon the trees of Spain, Italy, and the south of France in the months of May and June, when they are collected by placing linen cloths under the trees on which they have lodged through the night and by shaking the tree early in the morning, while they are torpid from the cold of the night, and consequently let go their hold easily.

They are then deprived of life by the vapor from boiling vinegar, and then dried in the sun, or in rooms heated by stoves.

Uses. Internally, cantharides are a powerful stimulant with a peculiar direction to the urinary organs, and in moderate doses it sometimes acts as a diuretic. Used with good results for glanders and farcy.

The principal use of the cantharides is as a blister by mixing it with lard.

Dose. Spanish Flies may be given in doses varying from 3 to 7 grains, given only once a day.

CASTOR OIL. This is the expressed oil of the seeds of the castor oil plant, which is now cultivated largely in this country throughout many of the Southern and Western States.

Use. This oil is very useful and safe for common use in the human family, but is considered unfit for the horse, as it sometimes causes inflammation of the coats of the bowels without relief from the purging.

(Linseed Oil is considered as safe and efficient for the horse as castor oil is for man. See Linseed Oil.)

Dose. When it is thought best to give castor oil, or in the absence of the linseed oil, it may be given in doses varying from 3-4 to 1 1-4 pints.

CATECHU. An extract prepared from the wood of Acacia Catechu and found most abundant in the East Indies. It is a small tree, seldom growing more than twelve feet in height, with the trunk about one foot in diameter.

Use. An astringent which will bind the bowels in diarrhœa and is combined with good results with opium and prepared chalk for diarrhœa.

Dose. One to three drachms.

PREPARED CHALK. (Creta Præparata.) This is the only form in which chalk is used in medicine and is an excellent antacid; is one of the best antidotes for oxalic acid. It is used with good results for acidity of the stomach and for diarrhœa, etc.

Dose. One to two ounces.

CAMOMILE FLOWERS. This is a native of Europe, and grows wild in all the temperate parts of that continent, and is also largely cultivated.

Use. A very mild tonic, and quite useful when combined with other medicines of this class.

Dose. It may be given in doses varying from one-half to two ounces.

CHARCOAL. This may be given with good results powdered for chronic diarrhœa, dysentery and debilitated stomach.

Dose. Half an ounce to one ounce, and it may be given suspended in gruel. It may be used with good results externally when applied to badly smelling wounds.

CHLORIDE OF LIME. This compound was originally pre-

pared for a bleaching agent nearly a century ago, and has since been found to have valuable properties as a disinfectant. It is a dry, or but slightly moist, grayish white, pulverulent substance, with an odor similar to that of chlorine.

Uses. Chloride of lime is a disinfectant, and from its deodorizing and antiseptic properties makes an excellent stimulant to unhealthy ulcers, applied in solution, also for cutaneous eruptions, etc. Its principal use is as a disinfectant in stables occupied by glandered and other sickly horses, and may be sprinkled on the floor every morning, or may be suspended in the stable in a box which has several holes cut into it.

Dose. When it is thought best to give it internally, 1 to 3 drachms may be given at a dose, in water.

CHLOROFORM. Is a colorless, volatile liquid, having a bland ethereal odor and sweetish taste.

Uses. It is an excellent stimulant for horses when having a chill, from cold or in congestion, and is sometimes given to quiet pain in colic and other painful diseases. It is used mostly in liniments, and sometimes for inhalation. One ounce of chloroform and three ounces of olive oil well mixed makes an excellent liniment for external use. When chloroform is given to the horse by inhalation, he should be well secured so as to prevent his doing any damage, as it sometimes makes the horse perfectly wild and uncontrollable. When any operation of any considerable extent is to be performed it is best to tie the horse down, and then administer the chloroform by pouring about an ounce of chloroform on a sponge, and holding the sponge to one nostril and covering the nose loosely with a large towel; but care should be taken to allow the horse pure air, also to breathe with the fumes of the chloroform. Usually two to four ounces is sufficient to produce its effects when inhaled.

Dose. One to two drachms well diluted with weak spirits.

CROTON OIL. This is a very powerful cathartic, and dangerous if improperly used. But as a "last resort" many times works very well.

Dose is usually from ten to fifteen drops.

ELECAMPANE. This is one of the best medicines in use for lung affections, and should enter largely into all mixtures for this class of diseases. It is also an agreeable aromatic, and should form a part of all Condition Powders.

EPSOM SALTS. (Sulphate of Magnesia.) This medicine, so well known in every household, is used with good results as a febrifuge, and is often given as a purgative. It is not only cheap, but it is very good for several diseases, and forms a part of various condition powders.

Dose. 1-2 to 1 pound, with one ounce of ginger dissolved in as large quantity of cold water as can be given the horse conveniently, and also allowing the horse to drink, if he will, after the salts have been given, for the reason that they will be much more efficient if largely diluted.

ERGOT. This is produced from diseased rye, and is of great value in the foaling season, as it is the most effectual remedy known for increasing the action of the uterus, when there is not sufficient contraction. Great care should be taken when it is given that nothing prevents delivery, only deficient action of the uterus. It should not be used by the non-professional, as they would be more likely to do harm with it than good; in fact, the cases demanding its use are *very* rare, but, as we said before, where its use is really called for nothing will act as well.

Dose. Of the powder, 1-4 to 3-4 ounce. Of the tincture, one to two fluid ounces may be given.

ETHER. (Sulphuric Ether.) This is a very valuable remedy, and is used with excellent results for colic, and for various purposes is a good antispasmodic. Given with tincture of opium it works admirably for colic.

Dose. One to two fluid ounces.

EUPHORBIUM. This is the concrete resinous juice of a plant growing in Africa and in other parts of the world.

Use. Owing to the severity of its action, its internal use has been entirely abandoned, and it is now only used externally, and it is so severe that it is but very little used now externally.

MALE FERN. The root of a plant growing in South Africa. Is said to be very valuable for ridding animals of worms.

Dose. It may be given to the horse in doses of one-half to one pound of the powdered root, and followed with a purgative the next day.

FENUGREEK. An annual plant growing spontaneously in Southern Europe. It has a peculiar odor which is quite agreeable. The seeds ground is the portion used, and they enter largely into nearly all the condition powders which are put up and sold through the country.

Dose, 1-4 to 1 ounce.

NUT GALLS. A morbid excrescence upon the oak-tree resulting from holes being made by an insect in the bark.

Uses. It is a powerful astringent, and is used to bind the bowels when affected with diarrhœa or dysentery, and used for applying to the greasy heels of horses.

Dose. One to three drachms.

[THE END.]

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